THE Soybean Digest

EAST. ENGINEERING

FEB

Official Publication

OF

THE AMERICAN SOYBEAN ASSOCIATION

VOLUME 5 • NUMBER 4 FEBRUARY • 1945

EAST. ENGINEERING LIBRARY

There's Going to Be a THUNDERSTORM!

Ohmigosh! We hate to look . . .

But it's no worse than the thunderstorm in your business when the solvents fail to meet specifications for uniformity and throw production out of gear all along the line. For in solvents, if there's one thing you've *got to have*—it is *uniformity.*

Hurdle that problem by specifying SKELLYSOLVE. The unvarying uniformity of SKELLYSOLVE is *assured* by our processes of refining it.

Scientific, instrumented control eliminates the element of human error and the vagaries of thumb rule.

SKELLYSOLVE

for the Extraction Method in the

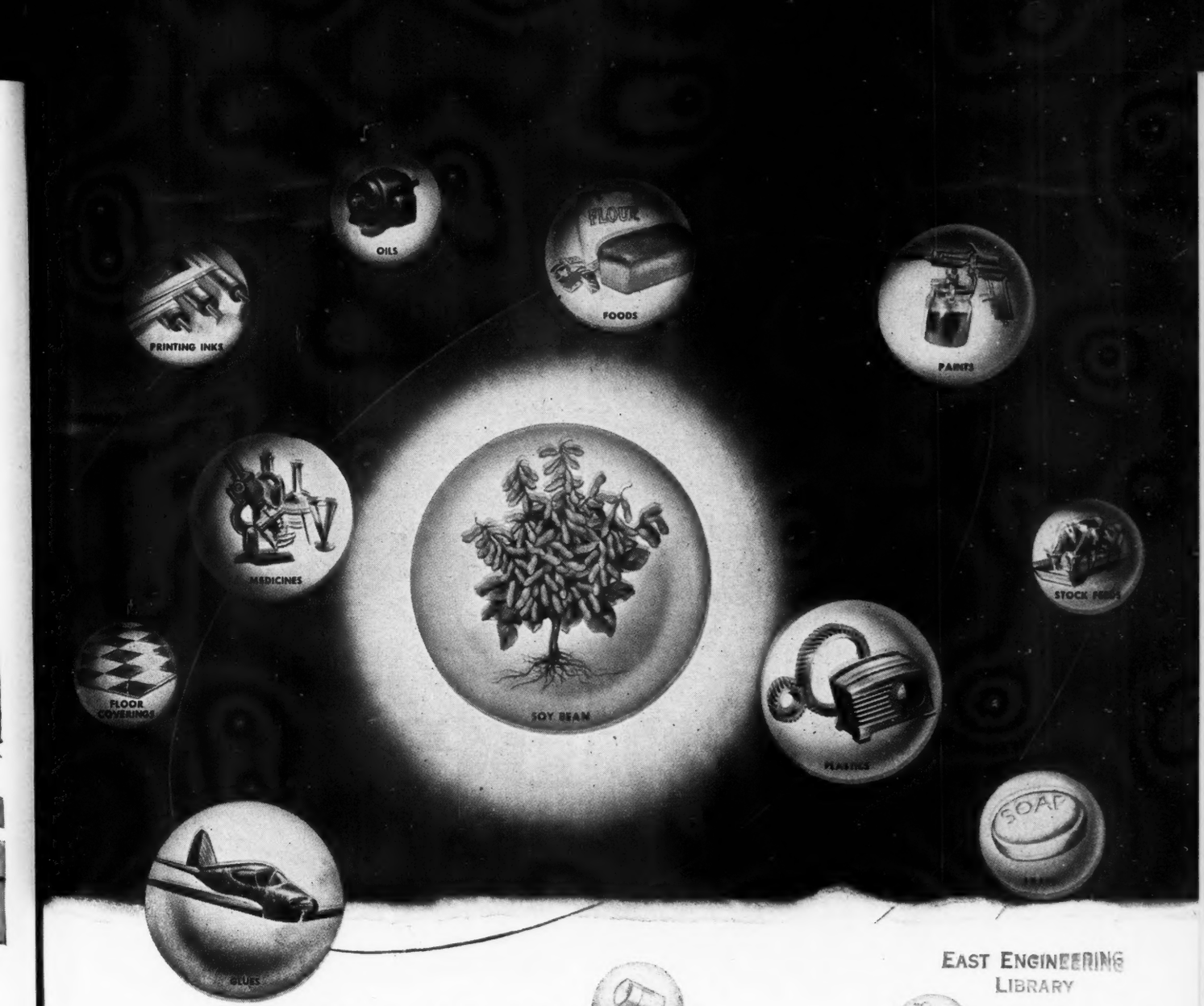
SOYBEAN INDUSTRY

The Skellysolve especially refined for the extraction of soybean oil not only gets *more oil* from each bushel of soybeans but, also, the extraction process is more favorable to the retention of nutritional properties of soybean meal. Skellysolve has the correct boiling range; is free from greasy residues, foreign tastes and odors. These qualities are essential to the success of the more efficient extraction method.

SKELLYSOLVE

SOLVENTS DIVISION, SKELLY OIL CO.

SKELLY BLDG., KANSAS CITY, MO.



EAST ENGINEERING
LIBRARY

A NEW *PLANETARY SYSTEM*... REVOLVING AROUND THE SOY BEAN

Blaw-Knox offers a complete service to the chemical and process industries. This includes everything from building pilot plants to producing equipment for full-scale production.

For the soy bean industry—as an example—Blaw-Knox has developed improved techniques and specially designed equipment. Blaw-Knox experience and creativeness, its engineering background, its complete facilities, are the basis for a reasonable assumption that Blaw-Knox can be of value to you if your business comes within its scope.

One way for you to find out how and to what extent Blaw-Knox can serve you, is to give us an opportunity for a mutual discussion. Out of that may come some important results.

BLAW-KNOX COMPANY

A PACEMAKER FOR AMERICAN INITIATIVE AND INGENUITY

2030 FARMERS BANK BLDG.
PITTSBURGH, PA.

Five Blaw-Knox Plants have been awarded the Army-Navy "E" for war-production excellence

LEWIS FOUNDRY & MACHINE DIVISION,
Rolls and Rolling Mill Machinery

POWER PIPING DIVISION,
Prefabricated Piping Systems

COLUMBUS DIVISION,
Ordnance Matériel

SPECIAL ORDNANCE DIVISION,
Bofors Anti-Aircraft Gun Mounts and Mechanisms

BLAW-KNOX DIVISION,
Chemical & Process Plants & Equipment, Construction Equipment, Steel Plant Equipment, Radio & Transmission Towers . . . General Industrial Products

PITTSBURGH ROLLS DIVISION,
Rolls for Steel and Non-Ferrous Rolling Mills

UNION STEEL CASTINGS DIVISION,
Steel and Alloy Castings

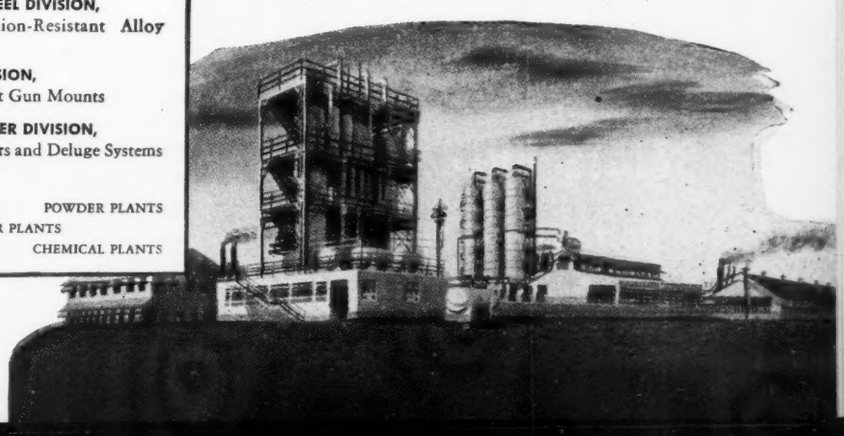
NATIONAL ALLOY STEEL DIVISION,
Heat and Corrosion-Resistant Alloy Castings

MARTINS FERRY DIVISION,
Bofors Anti-Aircraft Gun Mounts

BLAW-KNOX SPRINKLER DIVISION,
Automatic Sprinklers and Deluge Systems

A FEW VICTORY PRODUCTS

ANTI-AIRCRAFT GUN MOUNTS · GUN SLIDES · LANDING BARGES · POWDER PLANTS
PIPING FOR NAVAL VESSELS · SYNTHETIC RUBBER PLANTS
CAST ARMOR FOR TANKS & NAVAL CONSTRUCTION · CHEMICAL PLANTS



It pays to be a Bemis Customer

BEMIS BAGS

BEMIS BRO. BAG CO.
Saint Louis
Better Bags Since 1858

The full resources of materials, manufacturing and fine printing of 14 textile bag plants and 6 heavy duty paper bag plants—strategically located from coast to coast—are behind every Bemis contract.

East Pepperell, Mass.

THE Soybean Digest

REG. U. S. PAT. OFF.

GEO. M. STRAYER, Editor KENT PELLETT, Managing Editor

Publishers' Representatives: Ewing Hutchison Co., Chicago

Vol. 5 FEBRUARY ☆ 1945 No. 4

Published on the 15th of each month at Hudson, Iowa, by the American Soybean Association. Entered as second class matter November 20, 1940, at the postoffice at Hudson, Iowa, under the Act of March 3, 1879. Forms close on 1st of month. Subscription price to association members, $1.00 per year; to non-members, $1.50 per year.

IN THIS ISSUE

	Page
The Soybean Industry — Whitney H. Eastman	6
Crop Sights Are High	8
Lamp of China — John J. Kessler	9
Streamlining the Soybean — Edward Jerome Dies	10
General Mills Opens Plant	11
Illinois Yield Contest	11
Cooperative Processing Mills — Edward G. Schiffman	12
Cooperative Roundtable	13
Tests on Inoculants	13
Tribute to Burlison — G. L. Jordan	14
Report on Indiana Contest — K. E. Beeson	16
No Soy in License Plates	18
Fat Fundamentals — Charles E. Lund	20
Grits and Flakes	22
Washington Digest — Porter M. Hedge	24
Market Street	26
Markets and Government Orders	29

The American Soybean Association

OFFICERS: President, Howard L. Roach, Plainfield, Iowa; Vice President, Walter McLaughlin, Decatur, Ill.; Secretary, J. M. Strayer, Hudson, Iowa; Treasurer, J. B. Edmondson, Clayton, Ind.

DIRECTORS: Ersel Walley, Ft. Wayne, Ind.; John Dries, Saukville, Wis.; Jacob Hartz, Stuttgart, Ark.; David G. Wing, Mechanicsburg, Ohio; Harry A. Plattner, Malta Bend, Mo.; Gilbert Smith, Taylorville, Ill.; John Sand, Marcus, Iowa.

NOW IS THE TIME TO START PLANNING

How much longer will we continue to grow big crops of soybeans? Each year we have asked that question, and each year it has seemed probable that this would be the last of the war-stimulated crops. The 1945 acreage promises to be as large as that of 1944. What follows in '46?

Let's look at influential factors. When can we expect heavy shipments of tropical oils to begin rolling in from the Southwest Pacific? To take away at least a part of our present markets for soybean oil? With the Philippines rapidly being regained?

An informed Britisher was recently asked that question. His answer was decisive as he said, "About 12 months after the conquest. The trees are there; the labor is there; it won't take long to get going again."

What will happen to soybean production then? There are three possible courses. One of them is to shrink soybean acreage to some place close to pre-war levels, and shift consumption to cheaper and less versatile tropical oils. That our governmental planners allow such a course is unthinkable, after our desperate scramble to produce our own fats and oils during war years.

The second course is to protect our domestic sources of fats and oils by import duties which will never again allow us to become dependent upon the other side of the world for foods fats. This procedure has merit.

The third procedure is that of developing, through research and experimentation, ways and means of using soybean oil economically in our American economy, so that soybeans produced on our farms may compete on a price basis with other crops and so that we may retain a good measure of our internal self-sufficiency on fats and oils.

Combinations of those courses may be worked out. Will margarine manufacturers continue to use soybean oil? Shortening manufacturers? Will paint manufacturers use it extensively?

The answers are dependent upon the willingness of all phases of the soybean industry to agree upon the correct course, and then to unite in fighting for it. The day when postwar economy begins to shape itself is too late to start planning. We will, largely, determine the policies of our nation as they affect the industry if we will first agree among ourselves what those policies should be.

They do not include major reductions in soybean acreage!

More soybean seed will be inoculated in 1945 if growers and dealers will anticipate their needs and place their orders for inoculants early. Growers attempted to buy too large a percentage of their inoculants at the last minute last year. As a result, many dealers were out, and many beans went into the ground without inoculation. See the article on page 8.

THE SOYBEAN INDUSTRY

And Its Place in Our Agricultural and Industrial Economy

By WHITNEY H. EASTMAN

President, Vegetable Oil and Protein Division, General Mills, Inc.

CULTIVATION of the soybean in the Orient is centuries old; in the United States it scarcely spans a full generation.

In the Orient — except in Manchuria where industrial uses of the soybean have been more or less developed — the soybean crop is used as a supplement to a diet extremely high in cereal grain foods. Soybean protein, in the form of food products produced largely by the fermentation process, provides a cheap and highly nutritious food for millions of Oriental families with low incomes who consume their entire production of soybeans as food in the local community where they are grown.

A comparative newcomer in the United States, the soybean has found an important and almost indispensable place in our agricultural and industrial economy. The soybean crop is already recognized as the No. 1 oilseed crop in this country. A careful look at the facts will be convincing, yet it might be interesting to first take a look at the domestic status of the more important companion oilseed crops. While the soybean industry is the infant segment of our vegetable oil industry, it has made such gigantic strides that it has outdistanced cottonseed, flaxseed and peanuts, from the standpoint of volume and national economic significance.

WHITNEY EASTMAN

Flaxseed crops even though nurtured and protected by a high import tariff have had their ups and downs, largely because of unstable economic factors. It is a popular misconception that the irregular and violent gyrations of flaxseed production have been due entirely to the hazards of weather and soil depletion. Instead, they have resulted from a number of flaws in our national economy as it relates to the flaxseed crop and the production and utilization of linseed products.

COTTON AND POLITICS

Domestic cotton crops in recent years have likewise been subjected to tremendous political and economic pressures, and as a result have shrunk in size and importance from the leading position they once held in the field of oilseed production. Our cotton crop appears to be frozen at approximately current levels of production — the domestic demand for cotton fiber in competition with low cost producing countries and competitive synthetic fibers being the principal limiting factors.

Peanut crops for oil milling purposes were heavily subsidized by the Government even before the war, in order to insure an outlet for farmers' production which did not qualify as edible grade.

On the other hand, the soybean industry — up to the period of wartime control — had already shown remarkable ability to establish a place for itself in our agricultural and industrial economy. There are some very sound and fundamental reasons which explain this phenomenal, yet natural growth and stability.

As the automobile and the tractor supplanted the horse during the early period of mechanized agriculture and transportation, some of the acreage devoted to oats was no longer needed for that purpose, and soybeans became a logical substitute in the farmers' crop rotation program. The farmer's surplus production of oats above his own farm feeding and seeding needs had provided a splendid cash crop throughout the Cornbelt. Now, soybeans — replacing and supplementing the Cornbelt farmer's oats crop — have provided a new and stable cash income to thousands.

In addition to the advantages of having a profitable cash crop — after 20 years of experience with soybeans in the crop rotation program — soybean farmers now appreciate that there are indirect and auxiliary advantages and dividends to be realized. The benefits from soil conditioning and improved fertility cannot be overlooked, even though they cannot always be measured in dollars and cents. The increased dividends from other crops grown in rotation with soybeans should be given due consideration in determining the overall returns from the crop. In other words, the price of a bushel of soybeans in relation to that of some other grain does not tell the whole story.

In the Cornbelt the soybean crop has over the past 20 years withstood the ravages of insect pests and weather hazards extremely well. The crop adapts itself readily to our mechanized farming methods and compares favorably with the principal grain crops for low net production cost per acre.

From the growers' risk standpoint the crop has excellent versatility. If the soybean processors' price for soybeans does not seem attractive or there is some danger of the crop not reaching maturity, the grower can utilize the crop in diversified ways. The crop can be utilized for forage or cut for silage or hay.

In addition to the fact that soybeans have a natural and sound economic place in our crop rotation program in the United States, the soybean, because of its unusual organic structure, provides a source for a long list of products for both food and industrial uses. In order to give some idea of the possibilities of producing a wide variety of products from the little Oriental wonder bean, it can be stated that a recent study made in the research laboratories of General Mills, showed an amazing list of 181 products — all of which might have numerous variations as to type and properties.

ALL IN ONE PACKAGE

Vast possibilities will at once become evident when it is realized that the soybean contains a most unusual combination of protein, carbohydrates, fat, vitamins, minerals, enzymes and phospholipids. This unusual composition of the soybean, combined with the easy accessibility of these natural treasures, places soybeans in a pre-eminent position as an economical source for several basic ingredients for processed food products and manufactured products for the technical trades.

The predominant protein of the soybean — glycinin — comprises a combination of amino acids so essential to body growth and repair, which if unlocked and made available provide a source of raw material for many industrial products.

Soybean oil provides a source of both saturated and unsaturated fatty acids, and

this organic arrangement places the oil in the class of the so-called semi-drying oils. The properties of soybean oil imparted to it by its predominating groups of fatty acids place the oil in both the edible and technical groups of vegetable oils.

It is evident, therefore, that both soybean oil and soybean protein are readily adapted for use in both the edible and technical fields, in the form of basic ingredients or semi-processed raw materials.

Soybean protein in the form of soybean oil meal finds its largest outlet as an ingredient in animal feeds. Soybean oil meal has been recognized as the No. 1 vegetable protein concentrate in this country, the annual production of which is now something over 3 million tons or approximately 50 percent of all vegetable protein concentrates produced in the United States.

MARKET FOR SOY FLOUR

A much smaller quantity of soybean protein in the form of soy flour is being used in a variety of processed food products. The public in general has not become enthusiastic about the flavor and taste of the conventional types of soy flour currently appearing on the market. As the technology is advanced in this field and we learn how to treat soybean protein and adapt it for use in human foods so as to develop more popular taste appeal and at the same time preserve the valuable nutritive properties, we will, without doubt, develop a very broad market for soybean protein. It is believed by leading nutritionists that the soybean may hold one of the important keys to the problem of providing the low income groups a well-balanced diet at a reasonable cost.

Soybean protein to some extent is being used in the manufacture of such industrial products as vegetable plywood glue, adhesives, paper coatings and sizings, water emulsion paints, washable wallpaper, moulded plastics, textiles, insecticide-sprays, wallboard, insulation materials, core binder and fire foam. Soybean protein is also used to some extent as fertilizer for plant food and as a carrier for the natural enzymes found in the soybean for use in the manufacture of fermentation products.

Soybean oil, often referred to as the all-purpose oil, now occupies an important place in the edible oil field as measured by the quantity produced. The current production of cottonseed and soybean oil is running slightly over 20,000 tank cars annually for each oil.

On account of government restrictions limiting the use of soybean oil in the technical field, a very large percentage of our domestic soybean oil production is now being used in the edible field for such products as vegetable shortenings, margarine, mayonnaise, salad oils, salad dressings, and cooking oils. In peacetime when the demand for our edible fats and oils is not as great as it is at present, more of this versatile soybean oil is used in substantial quantities in the protective coating and other industrial fields in the manufacture of a long list of products, principal among which are the following: paint, lacquers, enamel, resins, putty, caulking compounds, oilcloth, linoleum, shade cloth, oiled clothing, leather, wallboard, core oils, oiled parchment, sulphonated oils, lubricating greases, printing ink, disinfectants, insecticides, tin plate and terne plate, soap and waterproof cement.

Margarine is one of most significant markets for soybean oil. Photo shows packages on conveyor.

Fatty acids of soybean oil have some very unusual and useful properties. By splitting off the glycerine the acids find a wide and expanding use in alkyd resins, synthetic rubber, resynthesized glycerides and a long list of chemical compounds and derivatives. A new series of soybean oil derivatives has just recently emerged from the research laboratories of General Mills. They are in the form of alcohol soluble resins used for protective coatings and heat sealing adhesives. Chemically the products are known as the ethylene diamine polymide of dimerized and trimerized linoleic and linolenic acids of soybean oil.

Phosphatides or phospholipids, known to the trade as commercial lecithin, are fat-like substances and are produced commercially from the soybean. Lecithin, a complex organic compound of a colloidal nature, has some very unusual and unique properties. Lecithin acts as a wetting agent and fat dispersing agent and has strong emulsifying properties. Lecithin has a wide field of usage in such products as chocolate coatings, candy and confections, bakery products, edible fat and oil products, ice cream, textiles, leather, rubber, lubricating oils and greases, chemicals, powdered metals, anti-knock gasoline, anti-foaming agents, wood impregnation products, munitions, pottery, paint and printing ink pigments, insecticides, liquid coal, pharmaceuticals and cosmetics.

Scope of the soybean industry is large, and the ramifications are many and varied. The industry has already reached an annual volume of 500 million dollars, and as the values of the basic products are enhanced by advances in research and technology, and the art of use becomes better known, the expansion should continue unabated.

Agronomists and the agricultural colleges are continually on the alert to develop new and improved varieties of soy-

beans — striving to obtain greater oil and protein yields per acre and thus enhance the growers' net return and insure a permanent place for soybeans in our crop rotation program over an ever widening area. The soybean growers are constantly improving and expanding their knowledge with respect to cultural practices in handling the crop, and year by year this increased efficiency on the part of the growers reduces crop losses and adds materially to the economic stability of the industry as a whole.

Agricultural implement manufacturers have from the early inception of the industry taken a keen interest in the growers' planting, cultivating and harvesting problems. Through the progress achieved in perfecting agricultural machinery to handle the soybean crop on a highly efficient and low cost per acre basis, they have made a tremendous contribution to the stability of the industry from the standpoint of competitive protection from the low cost Oriental producer.

IMPROVED FACILITIES

Country elevators serving as collection, grading and storage depots for the soybean growers and processors have gradually improved their facilities for handling the crop expeditiously and efficiently at harvest time, thus permitting the combines to "make hay while the sun shines."

Soybean processors as a whole have a keen sense of their responsibility and realize that they hold a key position in the industry. They are cognizant of the fact that they must convert soybeans into high quality finished products efficiently and distribute the products to the consumer at the lowest price possible. They realize that they must hold markets already established and constantly develop new ones. While part of the processing industry is still struggling with high cost conversion equipment and facilities, the industry is fast converting its processing procedure to the continuous solvent extraction method. No other segment of the vegetable oil processing industry has made such revolutionary progress in this direction as has the soybean industry. Most soybean processing plants are located in the heart of the soybean producing area, thus eliminating much cross-hauling and heavy transportation and distribution expense imposed upon many industries because of the geographical dislocation of the primary processing plants.

Scientists and technologists have been intrigued by the manifold uses for the constituents of the little Oriental wonder bean and have scratched their heads long and hard in an effort to expand the fields of its use. While each of the component groups play an important part in the progress of an industry, the next great advance in the soybean industry awaits new discoveries by the research scientists. As the research worker unlocks the hidden mysteries of the soybean still obscure to us, a new and important chapter in the history of the soybean industry will be written.

Once Again SIGHTS ARE HIGH

• Soybean production must not be allowed to slip in this crucial year.

ONCE more WFA has sent out the call to produce to the limit.

National soybean production will have to be held up to that of last year. The fats and oils situation is no easier. Output of fats and oils from domestic materials during the 1944-45 season will be off a billion pounds from last year, while the demand remains heavy. The livestock feeding situation is better but we are still short of proteins.

Whatever may happen to Germany in the next few weeks, 1945 may be the hardest year of all on the home front. The war's time table has slipped and, due to that fact, Uncle Sam is fighting two full-scale wars at once. This means a tremendous increase in the demand for supplies.

Farmers are tired from several years of accumulated fatigue, but draft policies may leave them shorter of manpower than ever. The tightening of gas restrictions and the farm machinery situation add to their difficulties.

Each ounce of energy expended must be made to count.

Again the *Soybean Digest* is conducting a campaign calling attention to the cultural practices that must be followed if production is to be held up to that of the past three years.

In particular, we are urging that every bushel of beans planted this spring be inoculated as the most effective and economical insurance of maximum production.

As has been pointed out in these pages before, it is imperative to inoculate with the proper strains of bacteria all seed planted on new land, since such bacteria are not naturally present in soil where soybeans have never been grown.

The importance of planting seed of adapted varieties is becoming more and more recognized if best results are to be obtained. Recommendations concerning varieties of a number of state experiment stations are published below. Others will follow in our March issue.

Iowa

Recommendations on the best varieties and cultural practices are based on the results of a number of yield tests over a period of four or more years at Ames and other locations in the soybean growing areas of the state as made available by Robert R. Kalton, in charge of the soybean research.

VARIETAL RECOMMENDATIONS

Northern Iowa. — Richland for early planting, May 10-20, on fertile soils. Earlyana for general planting, where seed is available, on medium to poor soils. Taller and 4-6 days earlier than Richland but much more susceptible to lodging. Early Manchu strains (Early Minn. Manchu, Wis. Man. No. 3, and Wis. Man. 606), for general planting on medium to poor soils. Compare favorably in yield with Richland and Earlyana. Habaro—popular on the more fertile soils; early and satisfactory in yield but short, susceptible to shattering, and low in oil.

Central Iowa. — Richland for the later plantings on rich soil. Mukden and B. H. Manchu for general planting. Dunfield and Illini for early planting (May 10-20) on medium to poor soils. Lincoln for early planting, to the extent that seed is available. Best yielding variety in its maturity range. Stands up slightly better than Dunfield or Illini but not as well as Mukden or Richland.

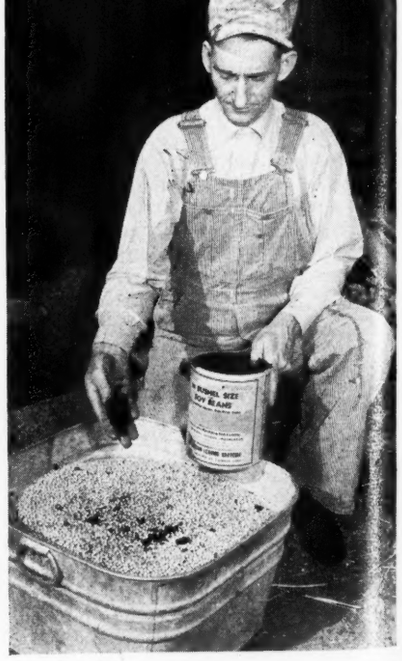
Southern Iowa. — Mukden and B. H. Manchu for the later planting. Dunfield and Illini for general planting. Lincoln for general planting when seed is available. Chief for early planting in extreme southern Iowa. Taller and yields slightly better than Illini where adapted.

Missouri

North Missouri. — Chief, Lincoln, Scioto,

Inoculation is one important step in allout soybean production.

—USDA Photo by Forsythe



6 STEPS FOR ALLOUT PRODUCTION

1. **Plant good seed of adapted varieties.**
2. **Good seedbed preparation to control weeds.**
3. **Inoculate with fresh live cultures.**
4. **Plant in rows, not too wide.**
5. **Grow on fertile soils.**
6. **Contour on rolling land.**

and Patoka for normal planting date. Lincoln recommended for the better soils.

Central Missouri. — Chief, Scioto, Boone and Manchu for normal planting dates; Illini, Dunfield and Manchu for late planting or to be followed by grain.

South Missouri. — Boone, Scioto and Manchu for normal planting dates; Manchu for late planting.

Southeast lowlands. — Ralsoy, Arksoy and Boone for normal planting dates; Boone for later planting.

Arkansas

The varieties most highly recommended for oil production are Arksoy and Arksoy selections, such as Arksoy 2913 and Ralsoy; Ogden; and Mamloxi. Other recommended varieties are Arkan, Tokyo, Wood's Yellow, Delsta, and White Biloxi. The Macoupin variety, the earliest maturing soybean grown for oil in Arkansas, may be recommended where earliness is of great enough importance to offset low yields. Plantings of Macoupin should be limited to the higher producing bottom land soils. The Biloxi variety is the latest maturing oil-type grown in Arkansas. Because of its rank growing nature, which may make combining difficult on highly productive soils, Biloxi beans are recommended only on upland soils.

When the beans are planted from late April until early June, they will mature at approximately the following dates under average conditions: Macoupin, September 15; Arkan, October 1; Arksoy, October 9; Ogden and Tokyo, October 12; Delsta, October 27; Wood's Yellow, October 29; Mamloxi, October 31; and Biloxi, November 9.

The major portion of the crop should be planted to medium maturing varieties, such as Arksoy or Ogden.

Kansas

Southeastern Kansas. — Hongkong and A. K. are first choice; Illini, Dunfield, Manchu and Chief second choice.

Northeastern Kansas. — Dunfield first choice, above named varieties second choice.

Wisconsin

Mandarin 507 for the earliest 95 to 100 day growing period; Manchu 606 for the 100 to 110 day period; Manchu No. 3 for the 105 to 115 day period; and Mukden for southern tier of counties. For northern sections varieties should be used which are certain to mature.

Michigan

In general it is recommended that soybeans for grain be grown only where corn matures thoroughly for grain. Yields of soybeans are usually low north of the Bay City-Muskegon line. Varieties suggested:

Mandarin—a very early yellow seeded variety capable of producing high yields of grain on fertile soil. If planted early, it matures before wheat planting time in southwestern Michigan. If this variety is planted on light soils, the vegetative growth is frequently so short that harvesting is difficult.

Earlyana—a yellow seeded high yielding variety between Mandarin and Richland in maturity. It is tall growing and may be used on the less fertile soybean soil.

Richland—earlier than Manchu and a few days later than Earlyana in maturity. It is a yellow seeded high yielding variety. The vegetative growth is likely to be short on light soils.

Manchu—a yellow seeded, medium early maturing, high yielding variety for seed production where corn matures thoroughly for grain. It is a desirable variety for forage purposes.

Minnesota

Northern and North Central Zones.— (early maturity, 82-95 days) Minsoy, Wis. Black.

Central and North Central.—Mandarin 507.

Southern one third of the Central Zone and the South Central Zone. — (medium maturity, 100-109 days) Habaro.

Southern Zone. — (late maturity, 110-116 days) Habaro, Manchu, Richland.

Richland is recommended only for soils maturing crops earlier than average.

Lamp of China

Burned Soybean Oil

By JOHN J. KESSLER

"Back through a hundred, hundred years
Hear the howl of the silver sea
Hear the songs of holy China
Hear the waves and tunes combine
Incantations fine and old."

The soybean is a Chinese bean. It is a native of Manchuria and the Chinese Emperor Shenung wrote about it in a medical book some 4,000 years ago. During all of these thousands of years it has been a major food staple for thousands of millions of Chinese. It has been their soup stock, beefsteak, vegetable and dessert. It has had industrial use too. For thousands of years it has furnished oil for Chinese lamps. I have read about many emperors who were called, August, Great, Mighty, Terrible, but the Emperor Shenung bears the affectionate title, "The Heavenly Farmer."

For centuries there has persisted in Chinese poetry the legend of a beautiful princess of the "inner apartments" of an Emperor's court. Her name was Wang Chao Chun, which means "dream maiden." And, of course, a handsome young Chinese prince was in love with her.

But one spring a marauding war lord appeared before the gates of the city whose will was strong and whose fighting men were behind his ambassadors. The emperor, to get rid of him, gave him the "dream maiden" among other treasures, and the heart of the melancholy young prince was broken. So much for an ancient legend.

In the Royal Ontario Museum in Toronto is a Chinese bronze lamp which bears evidence of being 2,000 years old. It came from the Yangtse valley in the province of Hupeh. The lamp is eight inches high, and the bowl or dish for holding the oil is four inches in diameter. The lamp consists of three parts. The base of it is shaped like a tortoise, a flat earth like creature. On his back stands a long legged Phoenix bird with his beak raised towards

This soybean oil burning lamp is 2,000 years old.

Heaven; and in his upturned beak he holds the flat bowl or basis which held the oil. It is a beautiful thing, delicate and graceful. The tortoise and the Phoenix bird are often used in combination in Chinese art. The tortoise, crawling between earth and heaven, was a symbol of a benign and quasi divine intermediary between the un-

(Continued on page 19)

E. J. DIES

Streamlining THE AGE-OLD SOYBEAN

By EDWARD JEROME DIES

STORY book tales may be found in the history of the soybean. Earliest writings on the subject go back to the time of the pyramids. Even before they were built, and 12 centuries before Solomon fashioned his temple, the soybean was hoary with age.

An Oriental legend tells of the first human use of the soybean. A rich caravan pulled out of an eastern China town one evening just as the sun was dipping below the rim of the world. It was bound for a distant settlement where, after a gay visit, the merchants turned their camels homeward across the wastes . . . ladened with gold and gems. The second day out the caravan was surrounded by bandits. Merchants and servants quickly took refuge in a rocky cave, easy of defense. When starvation began pinching, a servant, in desperation, ate beans from a vine-like plant. His vitality returned. Soon the hopeless men were pounding the bean into a thick flour upon which they survived until help arrived.

From almost that day onward, so the legend goes, the miracle soy became the staff of life in China. For centuries, teeming millions of orientals have made soy the basic food.

* * *

For the first written record of the soybean you must turn to "Materia Medica" set down by Emperor Shen-Nung in 2838 B. C.

In 1712 a German botanist, out of Japan, introduced the soybean to Europe, but the curio caused little more than a tolerant yawn. By the turn of the 19th century plant scientists in most countries were familiar with the legume. But they did not embrace it for domestic purposes.

Then in 1804 a Yankee Clipper ship in full sail slid down the coast of China searching the ports for a return cargo. Uncertain as to the length of the homeward journey, the captain ordered several bags of soybeans tossed into the hold as a reserve food supply. It was thus that the first soys entered America.

Desultory efforts were made to whip up popular interest during the next century. It remained for the late Dr. C. V. Piper of the Bureau of Plant Industry in Washington to carry the torch for the soybean. In 1907 he sent a brilliant young assistant, Dr. William J. Morse, to the Orient to study the soybean and to bring back many types and varieties. Dr. Piper, who had likened soybeans to gold from the soil, did not live to see the immense development in this country. But the great Bill Morse, still in government service, has been carrying on the work for 37 years.

Today in this country the miracle bean is big business — a 500 million dollar a year business.

The vast soy garden sprawls across the rich lands of the Midwest . . . dips into Dixie . . . patterns a bit of the East and Southeast, and is creeping slowly northward.

From this garden the miracle bean moves to the marts of trade in wagons, trucks, trains and steamboats. It passes through the great processing plants that convert it for the most part into livestock and poultry feed and products for the dinner table. It also goes into a long list of lesser uses.

In 1934 this country grew 23 million bushels of soybeans. Now we grow nearly 200 million bushels annually, a crop that has increased nearly 10-fold in 10 years. In the stream of agricultural history there are few events more striking than this dizzy rise of the soybean.

* * *

American genius has been streamlining the ancient soy. Alert agronomists, top-flight chemists, nutritionists, and home economists across the land have worked feverishly to bring about latest developments.

Despite the many present uses, by far the two principal products still are soybean oil meal and soybean oil. So tremendous has been the demand for meal in feeding the wartime livestock and poultry numbers that government allocation became necessary. The use for feed of animal proteins has remained almost constant for the past decade. The use trend of cottonseed meal also has remained nearly constant. Only soybean oil meal has shown striking gains in production and consumption. It was soybean oil meal that took up the shock and supplied the protein demands caused by the global war. A 500 percent increase in soybean oil meal caused less than a 100 percent increase in the total of high protein feed. Today this product of the soy is recognized as the number one protein concentrate and should assume increasing leadership in the years ahead.

A river of soybean oil has flowed into such edible products as shortening, salad dressings, and a long list of such-like products, including margarine, which is growing in popularity because of improved taste acceptance and added vitamins and other factors that make it a nutritious and agreeable spread. Demand for soybean oil has been so pronounced that the threat of renewed government allocation has been hanging over the industry. During the war period soy oil has opened up many new and permanent channels of consumption.

PROTEIN MOBILIZER

The sensational new-comer in the food field has been soy flour, soy grits and flakes. You are regularly consuming these products in popular pancake and muffin mixes, in macaroni and spaghetti, in ice cream and bakery goods. Soy flour has been used for some years in sausage, meat loaves and other products. It is an excellent binder and adds protein value. The baking industry constantly has increased its use of soy to intensify the nutty flavor of products and to longer maintain moisture and defer staleness. The incomplete proteins of wheat bread, when supplemented by a percentage of soy flour, not only add the protein of the soy but mobilize all the wheat protein as well, as has been strikingly demonstrated in experiments by government scientists and other leading authorities.

Far-reaching research work is being carried on at universities and government and private laboratories. In the future children no longer will eat candy free of protein, because many types will contain a distinct protein nutritional value hitherto absent.

Foreign governments have been purchasing soy flour and other soy proteins in large quantities to fortify bread and various products.

Packaged soy flour now is available on the shelves of many stores where it may

• *Radio address delivered by Edward Jerome Dies, author of* SOYBEANS: GOLD FROM THE SOIL, *over Station WNYC, New York City. Mr. Dies is president of the National Soybean Processors Association and president of the Soy Flour Association.*

be purchased by the housewife who prefers to mix it into cakes, soups, stews, and numerous other dishes. Even in peace times millions of Americans, particularly in the south, have had a diet short of protein. This new low-cost protein may solve the problem. Today soy protein is deeply enrooted in the American diet. It touches the lives of most of the nation's 138 million persons, including those in the armed forces.

* * *

Use of soy protein for *industrial* purposes likewise holds bright promise. Two general types now are available. One is the *mechanically* prepared protein compound, manufactured today in commercial quantities. It is used principally in the field of adhesives for plywood and various coatings that require an adhesive binder. A hundred million square feet per month of water resistant three-ply plywood are currently being manufactured with soybean glue.

The other general type is the pure protein prepared by *chemical* methods. It is known as alpha protein. This item has increased substantially since the war began. But except for military uses, it still is available only in experimental quantities. Principal use for the isolated protein is in the field of foam solutions, for fire fighting equipment, paper coatings, paper sizing and paints. More progress is being made here with these industrial soy proteins than elsewhere in the world. Progress stems wholly from research.

A synthetic soy wool, soft and fleecy as lamb's wool, has been developed. Commercial usage is yet to come.

Typical results of research at the government's great Northern Regional Research Laboratory are Norepol, a rubber substitute, and Norelac, a new resin of remarkable properties.

Some observers say this glowing fact stands out: In expansion of *industrial* usage of soy proteins, and soy oils, the horizon seems limitless.

* * *

As indicated, the soybean has had a colorful history. It has stirred up bloody clashes in the Orient. Some claim that Japan's initial attack on China was inspired in a measure by the lush prize of China's immense soy crop.

Hitler's blitzkriegs were aided by the soys which he has stored for years against possible shortage and to fortify rations as field kitchens rolled into battle areas. It is even declared that the terms of the shaky Hitler-Stalin pact had provided for a steady flow of soybeans to be siphoned from the Orient to Germany over the single-track railroad spanning the broad stretches of Siberia. Hitler waited impatiently for the soys. Shipping dates were violated one after another. The promised flow became a mere trickle. Hitler's food minister sounded an alarm. Finally the hysterical Feuhrer stormed at the Russian ambassador, who always found new excuses. A light dawned on Hitler when other promised articles failed to appear. Then came his long-delayed blow at Russia, which sounded Hitler's doom. He realized Russia had out-smarted him on every count, including delivery of the coveted soys.

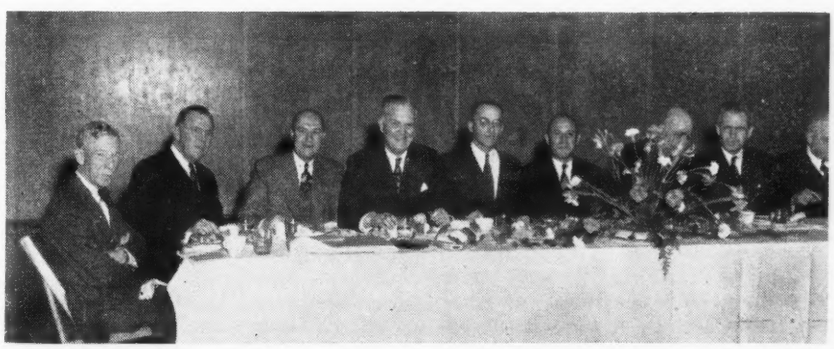
* * *

The day of peace draws near.

Hopes are lifted for a better world . . . a post-war world aglow with social, scientific and industrial progress.

In the new world ahead it is quite likely that this Cinderella of American crops, with its astonishing adaptability and its unpredictability, will continue to blaze new trails in the fields of agriculture and industry.

—s b d—



A section of speakers' table at the luncheon opening the Belmond plant. Left to right: Franklin Crosby, vice president General Mills; Dr. Charles E. Friley, president Iowa State College; Walter E. Flumerfelt, manager Belmond operations for General Mills; Harry A. Bullis, president General Mills; Clair Christie, president Belmond Chamber of Commerce; Whitney H. Eastman, president Vegetable Oil and Processing Division, General Mills; James F. Bell, chairman of the board, General Mills; Robert D. Blue, governor of Iowa; Lucien C. Sprague, president of M. & S. L. Railroad.

General Mills Opens Iowa Plant

General Mills, Inc., officially opened its soybean plant in Belmond, Iowa, Jan. 20, with special ceremonies including a luncheon and plant tour.

The plant, converted from a former beet sugar refinery by the installation of an Allis-Chalmers continuous extraction unit, will produce soybean oil and soybean oil meal, handling a total of 3,500,000 bushels of soybeans annually. Total capacity of the grain storage tanks will be 1,500,000 bushels.

About 200 persons, including General Mills executives, Belmond townspeople and business men representing allied interests and representatives of various segments of the soybean industry, attended the luncheon in Belmond. With Whitney H. Eastman, president of the Vegetable Oil and Protein Division of General Mills serving as chairman, the luncheon program included the following speakers: Iowa's Governor Robert D. Blue, James F. Bell, chairman of the board of directors of General Mills; Harry A. Bullis, company president; Lucian C. Sprague, president of the Minneapolis and St. Louis Railroad; Dr. Charles E. Friley, president of Iowa State College and Clair Christie, president of the Belmond Chamber of Commerce.

Walter E. Flumerfelt, manager of Belmond operations, presented a plaque to the Chamber of Commerce inscribed with the names of 41 Belmond citizens and expressing General Mills' appreciation for their extended help in building the storage facilities during a temporary but critical period of labor shortage.

LEIGH WINS ILLINOIS CONTEST

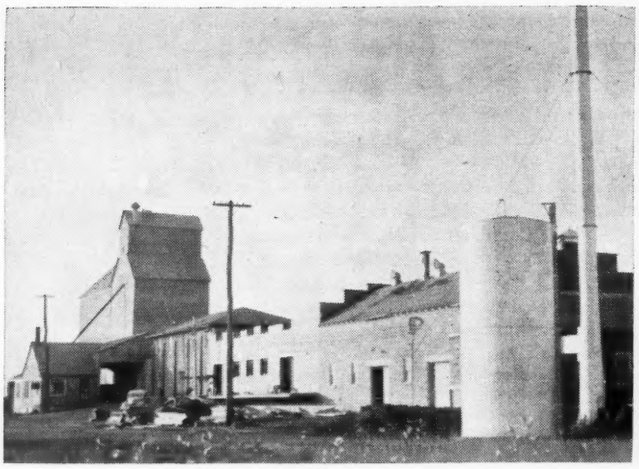
Lester E. Leigh, Sparland, Marshall County, topped contestants in the Illinois 10-acre soybean growing contest with a yield of 47.78 bu. per acre, basis No. 2 beans, it is announced by the Illinois Crop Improvement Association and the University of Illinois College of Agriculture.

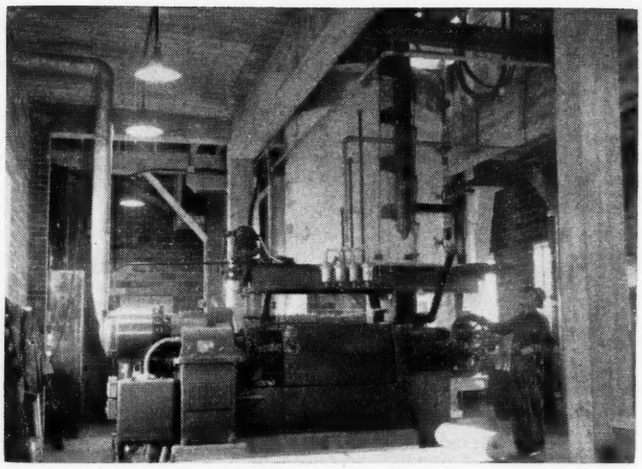
This was the fourth annual in the soybean growing contest. The average yield of all soybean contestants was 38.18 bu. per acre.

C. F. Davis, Sullivan, Moultrie County, produced 44.92 bu. soybeans per acre and had the high soybean growing score with 93.13 percent. He has been growing soybeans for 20 years and this year produced 122 acres of the Illini variety. Since 1929 no other variety has been grown on his farm. As a result of a field inspection of his beans last year his crop was given a rating of 99.8 percent purity.

Leigh with the high yield in the state showed a cost of production of $275.87 for 10 acres, a quality grade of 80 percent, oil 22 percent, for a total score of 90.69 percent out of a possible 100 percent. Leigh like all contestants except Davis grew the Lincoln variety of soybeans.

High soybean yields listed by sections were as follows: Section 1, Wm. Rushton, Minooka, Kendall County, 30.38 bu. Section 2, Joseph E. Peterson, Galesburg, Knox County, 44.23; Reid Bros., Smithshire, Warren County, 41.04; and F. M. Oakes, Laura, Peoria, 39.21; Section 3, Clinton G. Park, Warrensburg, Macon, 40.05; J. L. Trisler, Fairmount, Vermilion County, 39.51; and Maxwell Farms, Champaign, Champaign County, 38.84; Section 4; Leslie Daily, Mattoon, Coles County, 44.26; Wayne A. Coffey, Kansas, Edgar County, 43.34; George L. Pfeifer, Arcola, Douglas, 40.59; Everett McWard, Morrisonville, Christian County, 39.36; Frazier & Frazier, Charleston, Coles County, 38.83.





Left, exterior; right, interior views of cooperative soybean mills.

Cooperative SOYBEAN PROCESSING MILLS

• This article is presented as a matter of interest, since the question of farmers' cooperatives is a live one right now. The author is senior agricultural economist in the Farm Credit Administration.

By EDWARD G. SCHIFFMAN
Farm Credit Administration

FARMERS' cooperative associations, long well established in processing many farm products, have only recently entered the soybean processing field, the first cooperative mill having been organized at Henderson, Kentucky, in 1940. Since this date, there has been a rapid expansion and on December 1, 1944, 14 cooperative mills were in operation and 6 were under construction.

Of the 20 mills in operation or under construction, 18 use screw press equipment, one uses both solvent and screw press equipment, and one uses solvent equipment only. The capacity of these mills varies from 10 to 75 tons per day. The mills in operation on December 1 had an estimated annual capacity, based on 346 days of operations, of 5,640,000 bushels, which, with 2,216,000 bushels of capacity now under construction, will bring the total capacity of cooperative soybean mills to 7,856,000 bushels. This represents approximately 4.6 percent of the annual capacity of 172 million bushels of all soybean mills (see *Soybean Digest*, August, 1944).

As to organization, cooperative soybean mills are of four general types: (1) those owned and operated as an integral part of a local cooperative elevator; (2) local mills owned and operated independently of any other cooperative activity; (3) mills owned and operated by a federation of cooperative elevators; and (4) those owned and operated by and for a cooperative located outside the territory in which the mill secures its beans. The basic objective of these mills, as is true of cooperatives generally, is to obtain greater financial returns for their members and to provide them with better services than would otherwise be available. The fact that residual net earnings go to patrons on a patronage basis rather than to suppliers of investment capital, and the good will resulting from local ownership and control, should make possible the achievement of these objectives in those instances in which mills are properly organized and efficiently operated.

The money needed to finance these cooperative mills was obtained from the following sources: (1) sale of common and preferred stock, all of the common and most of the preferred being purchased by members; (2) savings or reserves of other cooperatives; and (3) by borrowing from Banks for Cooperatives. Like other mills, they purchase their beans from the Commodity Credit Corporation and operate under fixed processing margins. Net earnings above necessary reserves as permitted and prescribed by some state laws, and dividends on stock, are allocated on a patronage basis to the members, and in some cases, to all patrons who supply beans or purchase meal.

While there may be both large and small cooperative soybean mills in the postwar period, it is believed that one of the plants most likely to meet the needs of cooperatives will be a small solvent-type plant with a capacity of from 25 to 50 tons of beans per day which (1) is efficiently operated from a mechanical standpoint; (2) obtains the bulk of its beans direct from its producer members; (3) disposes of the bulk of its meal locally; and (4) is operated in conjunction with, and as an integral part of, a local cooperative elevator, particularly one operating a mixed feed plant and handling farm supplies. Such a mill may also find it desirable to join with other mills in setting up a cooperative agency which would furnish brokerage, hedging, quality control, research, engineering, and other services on a cooperative basis.

While sufficient cost and other data are not available to permit a precise determination of the best size plant, there is considerable evidence that a solvent plant with a capacity of from 25 to 50 tons per day will represent a rather satisfactory compromise between costs of operation and handling charges. The actual per bushel operating costs of this size mill will probably be higher than those of larger mills, even though they are operated in relatively low wage areas and overhead costs are minimized through diversification of operations. These higher operating costs should be more than offset, however, by reduced handling charges. A small mill

should be able to obtain most of its beans direct from farmers and sell most of its meal direct to farmers, thus largely eliminating handling and transportation charges. If beans are obtained through other elevators and these elevators are paid the prevailing handling and other storage charges, plus transportation from the elevator to the mill, and meal is disposed of by the same method, the advantages of a small mill will have largely disappeared.

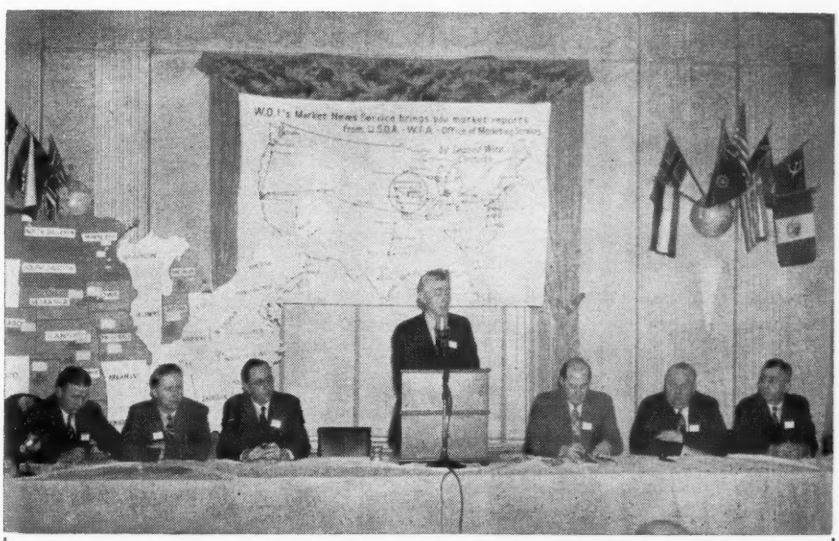
Operating a small cooperative soybean mill in connection with a local cooperative elevator, feed mixing plant, and farm supply business, will result in reduced overhead and handling costs for each of these activities, will provide greater flexibility in the use of labor, trucks, and other equipment, and will enable the association to more completely serve its members. It is believed that in many areas farmers will be able to get maximum returns from their beans if a cooperative mill is operated in the above manner.

The emphasis here has been placed on the small solvent type mill as being the one perhaps best suited to cooperative needs in the postwar period. This is not to say, however, that the large type solvent plant, handling from 100 to 500 tons per day, could not be operated successfully on a cooperative basis. There are some instances now, and will be in the future, in which large cooperative solvent plants would best serve the producers' interests. These plants should probably be owned by a federation of cooperative elevators to assure them of sufficient capital and adequate supplies of beans. In Iowa alone, there are approximately 300 cooperative elevators, three groups of which have already formed federations and are operating soybean mills. This type of organization should go a long way toward insuring a large cooperative mill adequate supplies of beans, even in periods in which the quantity available for processing is substantially less than the total processing capacity of all mills.

The recent rapid expansion of farmers' cooperative soybean oil mills can be chiefly attributed to the inability of farmers to obtain soybean meal other than in mixed feeds. However, had there never been a shortage of soybean meal, farmers probably would have gradually acquired soybean processing plants of their own. In some areas, farmers were dissatisfied with the prices they were paid for their beans. There was a feeling, too, that if others could process soybeans, apparently at a profit, why should producers not operate their own mills and retain such profits. Under any circumstances they could make certain that they obtained the maximum returns for their beans as based on the value of the end products, oil and meal. The success of cooperative cottonseed oil mills in securing for their members higher than prevailing market prices for their cottonseed had also been brought to their attention. Finally, their satisfactory experience in handling grains and farm supplies on a cooperative basis strengthened their belief that they could make a go of processing soybeans.

In the author's opinion, cooperatives will become increasingly important in the soybean processing industry in the postwar period, particularly in those states which now have only one or two cooperative mills. The rate of growth, however, will probably be substantially less rapid than that of the war period with the result that during the next few years the processing capacity of cooperative mills will continue to represent a relatively small percentage of all processing capacity.

—s b d—



A Cooperative Mill Roundtable

The managers of Iowa's seven soybean processing cooperatives take part in a panel discussion at the Farmers Grain Dealers Association of Iowa convention at Des Moines January 18.

At the mike is M. M. Stientjes, manager of the Big 4 Cooperative Processing Association at Sheldon, and chairman of the panel. He told his listeners, upwards of 500 cooperative grain dealers, that the co-op processing plants came in as an emergency proposition to help out with war production. He admitted that the group may have to scrap their equipment after the war in favor of more efficient outfits. "We rode in on this war and we may ride out with this war. If we can't meet competition we will go by the wayside." Stientjes said he hoped the firms would be in financial position to make the changeover without loss.

Plan of the co-ops is to obtain their supplies of soybeans from members, to market the oil meal through member organizations. Actually at the present time only 15 to 30 percent of production is going to market through farmers elevators.

Taking part in the discussion, from left to right: Clifford Gregory, Farmers Cooperative Co., Dike; Glenn Pogeler, North Iowa Cooperative Processing Association, Manly; Karl Nolin, Farmers Cooperative Association, Ralston; R. W. Jurgens, West Bend Elevator Co., West Bend; Edward Olson, Boone Valley Cooperative Association, Eagle Grove; and C. K. Gordon, Farmers Cooperative Elevator, Martelle.

RESEARCH

Tests on Inoculants

During 1944, 62 cultures of root-nodule bacteria for inoculation of legumes were collected by inspectors of the New York State Department of Agriculture and Markets and tested at the Experiment Station at Geneva, reports A. W. Hofer in *Farm Research*. Of these, most were for alfalfa, clover, or soybeans, or were combination cultures for alfalfa and clover. In the latter small type of packet, two manufacturers add bacteria for edible soybeans.

Despite the greater complexity of inoculants made to be used on more than the usual number of kinds of legumes and the increased production of inoculants generally on account of the war, the cultures for 1944 proved to be of high quality.

—s b d—

IOWA CHAMPION BEAN HARVESTER

John Farmer of Osgood, Iowa, was the soybean winner of the 1944 state harvest contest sponsored by the Iowa Farm Bureau federation. Farmer and his combine harvested 600 acres of soybeans in addition to his own crop.

Second and third place winners in the soybean harvest were H. A. Erion of New Hampton, Chickasaw county, who combined 482 acres of beans and Henry Zech of Pocahontas in Pocahontas county who combined 465 acres of beans.

A TRIBUTE TO DR. W. L. BURLISON

By G. L. JORDAN

HIGHEST honors and the gratitude of every soybean grower, processor, and user are bestowed freely on Dr. W. L. Burlison for his initial research and continued emphasis on the industrial uses of soybeans.

As head of the department of agronomy, University of Illinois College of Agriculture, he encouraged his associates to develop improved varieties of soybeans including the Illini, the Chief and the Viking. The new Lincoln variety was also a University of Illinois find. Other colleagues worked on soybean disease prevention, the improvement of harvesting equipment, the utilization of soybeans and soybean products as food and feed, soybean storage and marketing problems, and the problems of weed control, erosion, and the maintenance of soil fertility when soybeans occupy an important place in crop rotations. Although he would be the last to claim any credit, Dr. Burlison gave freely of his time as an active participant or counsellor in all these fields. For 31 years he has been a friend of soybeans. Even though they came to us from China as a "freak" crop Dr. Burlison recognized their possibilities and became their sponsor in the heart of the Cornbelt. Many articles and bulletins were inspired by his "crusade" for the lowly immigrant. However, in the field of industrial uses he, personally, is the recognized leader.

One of the first series of experiments by the University of Illinois Agricultural Experiment Station in the industrial uses of soybean products began in 1931. The object of these early experiments was to find a method of successfully utilizing soybean oil in paint. This project was successfully directed by Dr. Burlison and led directly to the utilization of large quantities of soybean oil by several of the large paint manufacturers. Who knows but that the inspiration that led to the present utilization of millions of pounds of soybean oil annually for nonfood purposes resulted from the enthusiasm, persistence and confidence with which Dr. Burlison tackled and solved the problem of using soybean oil in paint?

Careful historians will also record that Dr. Burlison was one of the leaders in the development of "edible" varieties of soybeans. On his desk can usually be found a dozen small containers filled with the "edible" varieties that have shown most promise in latest tests. He calls each by name and commends this variety for certain characteristics and that variety for some other good quality. However, to obtain the dozen varieties, he and his colleagues have not hesitated to discard for "edible" use many, many dozens of varieties. His interest in "edibles" has been second only to his interest in industrial uses.

It was out of tribute to Dr. Burlison and his colleagues that the American Soybean Association selected the University of Illinois as the location of its Silver Jubilee meeting last September. We can be sure that Dr. Burlison must feel happy to see his immigrant protege develop so much importance that it is now an indispensable war crop without which the struggle would be longer.

Fixo Says:

ORDER NOD-O-GEN EARLY

Farm Laboratory Division THE ALBERT DICKINSON COMPANY, Chicago 90, Ill., Est. 1854

Southern Office and Warehouse: 218 South President Street, Jackson, Mississippi

NOD-O-GEN The Pre-Tested Inoculator
The Crop and Profit "Pepper Upper"

CAREFUL BUYERS

Elevator and mill operators recognize **KELLY DUPLEX** equipment as a sound, profitable investment . . . low first cost operation at minimum power consumption . . . money savings from reduced repair bills and fewer shutdowns.

KELLY DUPLEX

is well equipped to give you complete service whether you are furnishing an entire mill or are in need of only one machine. We will be glad to give you suggestions and estimates without obligation.

Write FOR CATALOG

60 Years' Experience Backs The Kelly Duplex Line

The Duplex Mill and Mfg. Co.
Springfield, Ohio

Lincoln Out Ahead

REPORT OF INDIANA YIELD CONTEST

By K. E. BEESON
Secretary-treasurer Indiana Corn Growers Association

Interest in the soybean yield contest continued to grow in 1944 with 105 participants, the largest enrollment in the history of the contest, completing the project with an average yield of almost 35 bushels per acre, the same as in 1943.

The use of the Lincoln bean by 44 of these contestants has modified results this year. In the first place acre yields are doubtless higher than would otherwise have been the case due to the high yielding ability of this variety. In addition due to the limited seed supply and the necessity of getting maximum multiplication per bushel of seed, growers were required to plant it in wide rows which probably did not give the maximum yield for the variety. In spite of this the variety lead the contest in bushels per acre, and in average yield was superior to the Richland and Dunfield which were the most commonly checked varieties along with the Lincoln in the contest. Liberal fertilization of the Lincoln was also a factor as many growers followed the injunction to fertilize their seed fields, or they used highly fertile fields for the Lincoln multiplication.

PRIFOGLE WINNER

George Prifogle, a highly capable farmer of Franklin County, was winner of the Indiana soybean yield contest with a production of 47.3 bu. per acre. Mr. Prifogle, well beyond his 70th birthday, grew the new Lincoln soybean planted in 40-inch width rows on highly fertile soil which he has farmed for many years.

Previous winnings of corn yield and show championships are evidence of an excellent fertility program that he has followed. His rotation is standard for the inclusion of soybeans: corn, soybeans, wheat and a grass legume mixture. A livestock program has contributed to a high fertility level so no fertilizer was used directly on the soybean crop. The seed was inoculated with a highly efficient commercial culture. The growing crop was given three cultivations with the rotary hoe, and one with the row cultivator. At harvest time the moisture content was less than 9.5 percent.

VARIETIES USED AND AVERAGE YIELD

First figure is Number of Farmers Using the Variety, and Second is Average Yield

Year	Lincoln		Chief		Mandell		Patoka		Richland	
	No.	Bu.	No.	Bu.	No.	Bu.	No.	Bu.	No.	Bu.
1941					1	29.1	1	30.6	6	35.1
1942			5	33.6	5	41.5	2	36.8	23	39.0
1943			1	38.8	8	36.2	2	32.9	37	35.2
1944	44	36.6	4	36.49	5	30.6	1	36.7	26	33.8

Year	Dunfield		Gibson		Illini		Earlyana		Mukden	
	No.	Bu.	No.	Bu.	No.	Bu.	No.	Bu.	No.	Bu.
1941	5	26.1			3	36.1				
1942	7	34.4	1	39.5						
1943	9	33.4	2	34.2	2	30.8	2	39.5		
1944	13	31.5	3	42.0	1	37.0	1	30.9	1	33.3

STATE WINNERS INDIANA SOYBEAN YIELD CONTEST

Year	Name	County	Variety	Yield Bu. per Acre
1940	John Luecke	Benton	Richland	43.1
1941	Eldon Neal	Tippecanoe	Illini	42.4
1942	Merle E. Custer	Grant	Richland	47.9
1943	Lawrence Allen	Madison	Richland	42.9
1944	George Prifogle	Franklin	Lincoln	47.3

CLASS 21800

TABLE TYPE MACHINE

for closing bags with class 14500 sewing head

The ideal all-around bag closing equipment for regular plant production is Union Special Class 21800 table type machine equipped with either a Class 14500 or Class 80600 fully enclosed sewing head.

Class 21800 machines can be equipped with vertically adjustable or fixed heads; the conveyors on all machines in this group are vertically adjustable to varying heights of bags sewed. They have a double clutch mechanism for independent or synchronized conveyor belt travel. A conveniently located single foot pedal controls both sewing head and conveyor.

Write for NEW BULLETIN NO. 200. UNION SPECIAL MACHINE COMPANY, 476 N. Franklin Street, Chicago 10, Ill.

Union Special
Bag Closing Machines

Pressing Mr. Prifogle for high yield honors was Chas. Schenk of Vanderburg County with a yield of 45.3 bushels of Gibson soybeans. Mr. Schenk is a certified seed grower of both soys and corn, and maintains one of the most fertile farms in the Ohio River bottoms of Union Township, Vanderburg County.

Tied for third place honors were Fred C. Price of Clay County and Walter Askren of Marion County with yields of 45 bushels per acre of Lincoln soys. M. L. Anderson of Shelby County was fifth with a yield of 44 bushels; J. A. McHargue of Parke County sixth with a yield of 43.3 bushels; and R. E. Hardesty of Starke County seventh with a yield of 43.1 bushels.

Forty-four of the contestants used the new Lincoln soybean with a yield average of 36.6 bushels. Shortage of seed made wide row planting of this variety necessary in 1944, and on the average only 30 pounds of seed per acre were used. Second most popular variety was the early maturing Richland which averaged 33.8 bushels — for the 26 contestants using it.

Row plantings were much more popular than solid seedings, and gave higher yields by several bushels per acre. Certified seed was planted by more than half of the contestants and averaged 4 bushels more per acre. Almost half the growers fertilized their soys with a yield average of 2.4 bushels more than the unfertilized soys. Most growers were unable to plant until early June, and their average yield was 2 bushels under the May plantings.

(Continued on page 19)

BAGS

FOR SOYBEANS AND SOYBEAN PRODUCTS

★ BURLAP ★ PAPER-LINED
★ COTTON ★ PAPER

CHASE BAG CO.

GENERAL SALES OFFICES, 309 W. JACKSON BLVD., CHICAGO 6, ILL.

COAST TO COAST BAG SERVICE

BOISE	ST. LOUIS	GOSHEN, IND.	REIDSVILLE, N. C.
DALLAS	NEW YORK	PHILADELPHIA	HARLINGEN, TEXAS
TOLEDO	CLEVELAND	NEW ORLEANS	CHAGRIN FALLS, O.
DENVER	MILWAUKEE	ORLANDO, FLA.	HUTCHINSON, KAN.
DETROIT	PITTSBURGH	SALT LAKE CITY	WINTER HAVEN, FLA.
MEMPHIS	KANSAS CITY	OKLAHOMA CITY	WICHITA, KAN.
BUFFALO	MINNEAPOLIS	PORTLAND, ORE.	

Do you know Spergon is also beneficial for Soybeans?"

Reg. U. S. Pat. Off.

SEED PROTECTANT

Spergon protects seeds against destructive fungi that attack seeds and cause decay. Your state experiment stations have proved its value in increasing stands and yields especially in cold, wet springs that encourage fungi destruction. The higher yields, savings in seed and replanting crops pay for treatment many times over.

Advantages:—

- Non-poisonous and non-irritating to operator when applying to seed
- Makes planting easier—seeds slip through drill
- Overdosage not harmful to seed
- Does not deteriorate with age—may be applied long in advance of planting

2 ounces of Spergon protects 1 bushel of Soybean seed

Serving through Science

UNITED STATES RUBBER COMPANY

Listen to "Science Looks Forward"—new series of talks by the great scientists of America—on the Philharmonic-Symphony program. CBS network, Sunday afternoon, 3:00 to 4:30 E.W.T.

Naugatuck Chemical Division

1230 Sixth Avenue • Rockefeller Center • New York 20, N.Y.

Bobo Likes His Soy

—BUT NOT IN LICENSE PLATES

A Springfield, Ill., mongrel dog named Bobo recently achieved fame in a new direction.

According to widely published press reports Bobo made a habit of tearing off and eating Illinois automobile license plates which, according to the same reports, were made of a soybean base.

The mutt's plate-snatching career was short but sensational. On complaints of motorists Springfield's dogcatcher, John Gallagher, rounded him up, found him guilty of the act and sentenced him to die in the pound.

In the meantime Bobo had become a national celebrity, for the story was widely disseminated in the nation's press and even picked up by some trade papers. A flood of telegrams descended on the Springfield city officials begging for the dog's life.

Rumors had it that other dogs were taking up the pastime and were even following cars in order to snatch the plates. Other reports credited turkeys with eating them.

Even Gracie Allen joined in the uproar. She opined that the soybean might become "a vegetable Frankenstein," said she was looking forward to the day when scientists could make husbands out of soybeans.

Accounts of what happened to Bobo are various. One report had it that he was identified as the mascot of St. Joseph's Home for the Aged. He was released to the home on probation but later shipped off to Arkansas where the plastic license plates might no longer tempt him.

But according to another report he was taken over by the Springfield Wacs and patriotically gave up plate-chewing for Wac recruiting.

* * *

Thus the lowly soybean with Bobo's help has received more widespread publicity. However, this time the publicity is completely undeserved. There is no soy in Illinois license plates.

Suspecting that the stories were at least partially a hoax, the *Soybean Digest* investigated.

Inquiry at the Illinois Secretary of State's office elicited the information that at least one dog *had* made a practice of tearing license plates from cars.

Laboratory tests indicated that the protein content of the plates was so low that it could offer no attraction to dogs.

The manufacturer, the American Decalcomania Co. of Chicago, offered the information that the plates were made not of soy but of a laminated Kraft paper, painted and put through four bakes.

G. M. Eisenberg, president of the firm, wrote the *Soybean Digest:*

"This so-called hoax of dogs eating Illinois license plates because they contain soybean is so silly it is laughable. We have made license plates that are now in use from the territory of Alaska to the state of Louisiana. Alaska — where they have dogs that need food — nor any other state ever reported that dogs, cats, chickens or any animal were eating these plates.

"It is the writer's opinion that some dumb cluck in Springfield found a license plate that was partially destroyed, and since he saw a dog near the car, blamed this poor dog for eating part of the license plate. There is no more soybean in our plates than there is in cement. I think that that is what the head of this man must have been made of.

"This Springfield incident reminds the writer so much of the fuss made of the President's dog."

So there you have it. It is perfectly true that soybeans are going to the dogs in large quantities. Bobo or any other dog likes soy. It is nutritious and palatable and he can get it in many commercial dog foods, in the form of flour, flakes or grits.

But dogs will find automobile license plates, whether of metal or plastic, a poor substitute.

When a Dog Bites License Plates . . .

Springfield, Ill., Jan. 22—News stories and pictures of a stray pooch with a propensity for eating Illinois' soybean automobile license tags, were probably responsible for saving the dog's life.

When the Illinois State Journal told the story, Wacs at the Springfield recruting office asked for the dog and he is now doing his bit for the war effort by aiding in the Wac recruitment drive.

Wire stories telling of the dog's capture and impending death at the hands of the poundmaster if unclaimed, also brought a flood of telegrams to Springfield city officials begging for the dog's life and berating the officials for such an attitude "in the home of Abraham Lincoln."

The above, from EDITOR and PUBLISHER, is an example of the story which was widely published in the press and even in some trade papers.

GROWERS

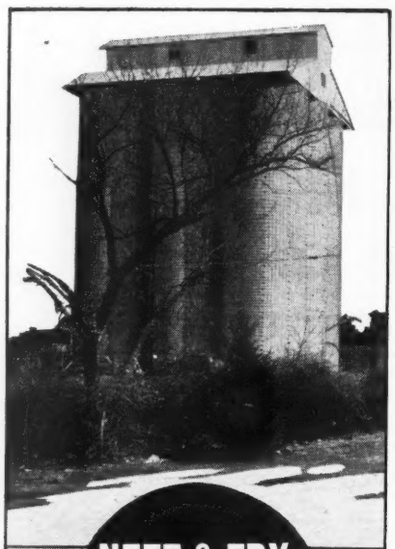
Stored Beans Farmers who have soybeans stored on the farm probably should look at them for signs of spoilage. The danger spot is just below the surface of the beans.

Storage tests made by the U. S. Department of Agriculture and the Illinois Agricultural Experiment Station show that soybeans stored with a moisture content of 12 percent or higher may give trouble.

During the winter, moisture given off by the relatively warm beans at the center of the bin collects just under the cold top surface and raises the moisture content there enough to cause spoilage.

Even though there is no visible evidence of rotting the spoilage may show up in poor germination next spring. If the situation is bad enough the loss in germination may be 100 percent.

If wet or damp soybeans are found at the surface, every effort should be made to take care of them. A thorough stirring of the damp beans with a rake or shovel at frequent intervals will generally prevent most spoilage. Removal of wet beans won't always solve the problem. Further moisture accumulation may take place under the new surface.



NEFF & FRY STORAGE BINS

SOYBEAN STORAGE

Each month the lowly soybean grows in importance—new uses are found, more storage problems arise.

Storage need be no serious problem to those with proper priority rating—or to any other grower or elevator, in post-war days.

Bins of any required diameter or height. Stave or monolithic.

Send for catalog. Plan now so you can build at earliest opportunity.

THE NEFF & FRY CO.
CAMDEN, OHIO

KESSLER

(Continued from page 9)

seen spirits of departed ancestors and the seen forms of mortals still walking on earth. To see a tortoise was a potent of long life, and the gift of a tortoise was a charm to insure it. If you wish to send me a Christmas present this year, send me a tortoise.

The Phoenix bird, with his beak raised up to Heaven was a symbol of a wish that the emperor, like the bird, might keep his head raised towards Heaven. If you send me a tortoise next Christmas, I will send you a Phoenix bird.

This lamp was cast in bronze and the patination was at first a grayish green but the gloss has disappeared after the lamp was electrically treated to remove corrosion, and the surface now shows a beautiful soft matt effect in light green. The bowl of the lamp bears an inscription in archaic Chinese. This has defied complete translation, but William C. White, the scholarly professor of Chinese Archeology of the University of Toronto has read, in part, "In the first year of HO-p'ing (28 B.C.) a Feng Huang (Phoenix Lamp) was made which weighed by the standards of Western Han (1 lb. 4 oz.)" The inscription further states that the lamp was made for the "inner apartments" or exclusively feminine quarters of a Chinese Emperor. The lamp is more than a beautiful art object. It is a practical lamp. It was made to burn oil, soybean oil.

Did the women of the "inner apartment" gather around this very lamp and in the dim light of its burning soybean oil talk in subdued whispers about the vanished Princess of the old legend? The archeologists can only affirm that it might have happened. Lamp and legend come from the same place and about the same time.

In a Vachel Lindsey poem, a reminiscent old Chinese Nightingale is perched up on a shelf in a San Francisco laundry and sings of a China of ages long ago while his Chinese owner irons American shirts far into the night. The bird is a reincarnation of the past he sings about, and as he recites stanza after stanza there is always the same refrain:

"I remember, I remember
That Spring came on forever
That Spring came on forever."

The soybean grows deep into the past of China. It will grow even deeper into the future of both China and America.

—s b d—

INDIANA CONTEST

(Continued from page 17)

On the highly fertile fields used by contestants, row seedings each year have given more bushels per acre than solid seedings. Narrow rows however in past years have outyielded wider rows which is in line with experiment station results. However the use of the Lincoln by 44 contestants contributed to a higher yield for the wide rows in 1944.

More growers used fertilizer in 1944 than in any preceding year due partly to the general practice of row seeding, and probably more to the desire to get the best quality and highest possible yield of Lincoln soybeans for seed purposes.

SOYBEAN INOCULATION

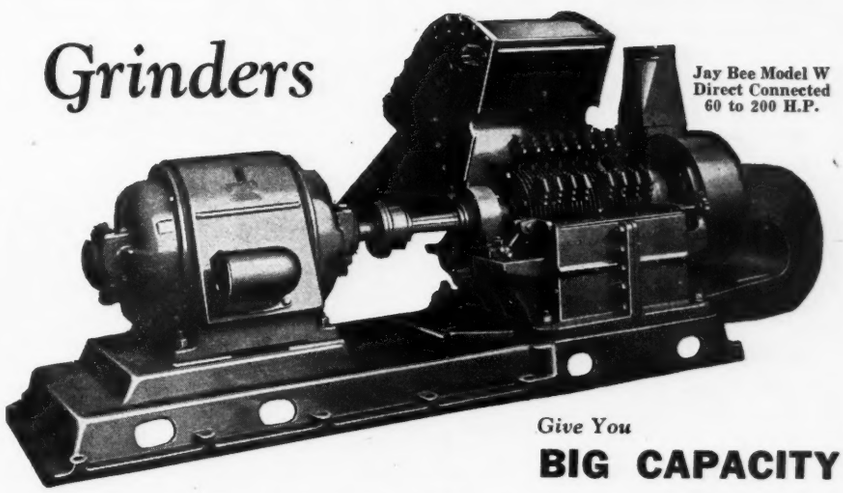
Inoculation is generally practiced by the soybean growers. Many of the farms of these experienced growers however are well inoculated for soys to begin with, but the extent of inoculation is small and therefore many growers continue to inoculate to assure an adequate supply of nitrogen.

The table gives the results of varieties used over a period of years in the contest. While the Dunfield is high in oil the oil content of the Lincoln is still higher and it exceeds all varieties of its maturity in yielding ability. The Richland has been extensively used and will continue to be the leading early maturing variety along with the Earlyana.

The three later varieties used, the Chief, Patoka and Gibson which were widely planted in southwestern Indiana particularly gave an excellent account of themselves and remain the most desirable varieties to use in that area. The Chief is slightly earlier than the other two and consequently extends a little farther north in the state than the other two varieties.

JAY BEE

Grinders



Jay Bee Model W Direct Connected 60 to 200 H.P.

Give You

BIG CAPACITY

with

ECONOMY

of Time, Work, Expense

and

Amazing
ENDURANCE

FOR hammermill grinding, JAY BEE leads! It's the choice of mill operators who must meet heavy schedules. More JAY BEE's are in feed plants than any other type of mill.

JAY BEE **stays on the job,** day and night if necessary, with little or no stops for repairs. Tough as an Army tank! "It's unbreakable!" says an operator.

Emergency conditions prove the sturdy performance of the JAY BEE. Over a quarter of a century mill making experience, that produces the JAY BEE, now pays big dividends to mill operators.

Whatever your grinding needs, write one of the addresses below for details of JAY BEE Grinding Equipment.

JAY BEE Grinders are furnished with belt, V-belt and direct connected drive in from 12 to 200 H.P. for every grinding and pulverizing purpose.

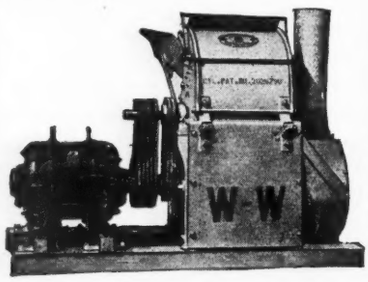
JAY BEE's are manufactured by The Bossert Co., Inc., Utica, N. Y., holders of three Army-Navy "E" awards for production efficiency.

UTICA, NEW YORK **J. B. SEDBERRY, INC.** **FRANKLIN, TENNESEE**

JOHN J. WOODS & SONS, JAY BEE SALES CO., KANSAS CITY, MO.

T. G. Holland Mach. Co., 474 Fairfax Road, Drexel Hill, Pa.
E. B. Harrison, Box 479, Bennettsville, So. Car.
The Lamiell Company, Greenwich, Ohio.
O. D. Padgett, Sandersville, Georgia.
A. F. Shirk, Box 523, Canton, Ohio.
J. E. Sorrells, Slocomb, Alabama.
Snyder Machine Shop, 3d & Emery Street, Longmont, Colorado.
Jay Bee Sales Co., 395 Broadway, New York, N. Y.
Frank S. Sanders, Franklin, Tenn.
Bryant C. Long, 1601 Choctaw Street, Baton Rouge, Louisiana.
Jay Bee Sales Co., Jackson, Tenn.
Jay Bee Sales Co., 4619 So. 7th Ave., Louisville, Kentucky.
Jay Bee of Texas, Dallas, Texas.
W. H. Hust, Jay Bee Co., 1031 N. Humphrey Avenue, Oak Park, Ill.
C. Y. Wier, Sr., Yates Hotel, Utica, N. Y.
W. Harold Grubbs, Box 2469, Winston Salem, North Carolina.
A. E. Thompson Co., 718 Washington Avenue, N., Minneapolis, Minn.

SOYBEAN GRINDING



The heavy demand for the use of soybeans in feeds, in flour, and the many industrial uses the beans are put to, calls for top-flight performance of grinding equipment that will give continuous trouble-free operation.

W-W Grinders meet this demand

- Finest pulverizer built. Soybean, cotton seed and oily products easily ground through medium fine screens.
- Fastest grinder built for coarse grinding.
- Blower action of cylinder keeps screen open. No blank spaces.

Write your own guarantee. We will sign it for a 30-day trial, if it meets with our approval. Our 12-page catalog gives details. Study it thoroughly.

W-W. Grinder Corp.

DEPT. SB WICHITA, KANSAS

Fat Fundamentals AND THE FUTURE

By CHARLES E. LUND

Chief. Fats and Oils Unit, Bureau of Foreign and Domestic Commerce, Washington, D. C., from a speech before the National Association of Margarine Manufacturers at Chicago January 25.

Actual use of available oils in any country is largely determined by cost and quality preferences. Although some fats and oils are of highly specialized nature, most may be used in either the edible or industrial fields, with a greater or lesser degree of modification. While a few are definitely inedible, such as castor, tung, and oiticica, the majority can be used for edible purposes. Linseed, a paint oil here, is an edible oil in the Soviet Union; soybean oil, developed principally for use in shortening, margarine, and other edible products, is also used as a paint and soap oil; rapeseed oil is used as an edible product, but has particular value in marine reciprocating engines.

Most of the industrial oils imported into the United States came from Far Eastern countries now occupied by the Japanese. The coconut and palm kernel oils imported principally from the Philippines, Netherlands, Indies, and British Malaya were used to a large extent in soap. Tung oil from China imparted quick drying properties to protective coatings. Palm oil was used in soap and was also of particular value in the preparation of tin and terne plate.

Prior to the war, 18 percent of United States new supply of all fats and oils was imported each year. Wartime exigencies have resulted in a decline in this dependence to 9 percent. Reduced imports have not, however, forced a like curtailment of consumption since domestic production has been expanded to a degree considerably greater than loss of foreign materials.

The amount of fats and oils produced in 1944 by the nation's farms and factories was the largest in the history of this country. The 10.9 billion pounds produced exceeded by 3.7 billion pounds the 1935-39 average. Domestic output not only offset the loss in imports (1 billion pounds) caused by the war, but also provided sufficient quantities to permit consumption at a rate only slightly lower than in prewar years, plus an increase of a billion pounds in exports.

SOY MOST IMPORTANT

Among the vegetable oils, soybean was the most important element in expanded domestic supplies. A relatively unimportant domestic oil in the 20's, production increased from 39 million pounds in 1932 to more than a billion in 1944. Output has more than doubled since 1939. We continue as the leading producer of one of the world's finest edible products — cottonseed oil.

In the edible field, war has changed the conditions under which consumers obtained fats in their diet. As this country is traditionally a surplus producer and an exporter of edible fats, present increased production of this group would have been much more than sufficient to meet demand, if it was not for military requirements and overseas needs. Lend-Lease deliveries of over a billion pounds in 1944 were almost entirely of edible fats—lard, soybean oil, and linseed oil. These shipments represented approximately 10 percent of total production of all fats and oils in 1943, 9 percent in 1944, and put the United States on a net-export basis in the fats and oils field. It is necessary to go back to the twenties to find the last period in which this country was in a similar position and shipped amounts approaching the magnitude of present exports.

In the course of adjusting types of products to available supplies, margarine production was put under the most liberal quota of any in the fats and oils field.

WE ARE equipped to grind and corrugate mill rolls up to 19 inches in diameter by 60 inches long, and grind smooth roll 24 inches in diameter by 90 inches long. Thirty years in the roll grinding and corrugating business. Your patronage is solicited. Prices on request.

Mc. Grinding & Corrugating Works
E. G. McCLINTIC, Owner
2827-29-31 Terrace St., Kansas City 8, Mo.

Production of 614 million pounds in 1943 was more than double the 1939 output. The expansion in our margarine production from pre-war proportions has brought with it an increasing use of domestic oils —252 million pounds of cottonseed and 198 million pounds of soybean oil comprised 90 percent of fatty materials used in margarine in 1943. The other 10 percent was also of domestic origin. By War Food Administration controls, coconut and other lauric acid oils are no longer used in edible products, but even before the war their part in margarine was small, representing 10 percent of 1941 fat usage in this product.

From present indications, 1944 domestic production of fats and oils will remain a record for some years. In 1945 output will be down about a billion pounds but will still be 2.7 billion over the 1935-39 pre-war figures. With the aid of stocks accumulated during the past season, new supplies and imports should be sufficient to provide the presently estimated 11.3 billion pounds needed for essential civilian, military and Lend-Lease purposes.

The augmented wartime production of fats and oils creates questions for the future, and the ingenuity and far-sightedness of the entire industry will determine to a considerable degree the prosperity of any particular group. Foreign oils have in the past supplemented domestic production and allowed the technical skill of the United States to be used in producing excellent products. It is inconceivable that we should in the future reject the opportunity to utilize these foreign oils because of a desire to attain complete self-sufficiency whose value, if any, would be transitory to the industry and to the economy as a whole. Surely this country has progressed by following a theory of an expanding rather than a contracting economy.

In postwar years increased demand from domestic sources will absorb some of the augmented production. Assuming relatively full employment, and on the basis of the civilian needs accumulated during wartime for industrial products, plus the resumption of the normal upward trend in per capita consumption of edbile fats in this country, domestic disappearance of at least 11 billion pounds, 1½ billion pounds over pre-war 1939, can be expected. Of this, edible fat consumption would be 7.3 billion pounds in line with the traditional relationship of ⅔ edible and ⅓ inedible.

In the post-war period, if this country maintains its fats and oils production at around 10 billion, imports of 2 billion pounds of industrial oils will make it possible for us to export 1 billion pounds, mostly of edible fats. In the five years prior to the war exports of fats and oils from this country averaged less than 500 million pounds a year, about half of which was lard. Although exports are not likely to continue at the extraordinary high levels reached through Lend-lease operations, we have in the process reestablished and built up markets for our edible fats in those countries. In other areas, there is considerable pent-up demand for fats and oils, which indicates the possibility of a substantial peace-time trade through commercial channels.

European demand for United States products will probably remain strong for the first year after the end of the war. Full information is not now available as to the condition of processing plants in areas subjected to heavy bombing. *In some areas there will be a demand for our oilseeds to supply the needed fats and the residual cake used for cattle fodder.*

Wartime developments indicate the enormous potentialities of foreign trade under conditions of high production at home. The only way to obtain that trade for peacetime years is to take positive steps that will put other countries in a position through reciprocal trade, to absorb increasing amounts of fats and oils, including our surplus production. The dynamic possibilities of the situation are great; there is no absolute limit to foreign trade. It is not necessary to assume that the only alternative to trade barriers between producer and consumer is the complete elimination of any type of control. The possibilities of an expansion of production and trade under realistically considered controls based on internationally good-will can do more to aid peace and prosperity than any amount of wishful thinking. The concrete value of such an expansion is self-evident.

It is a fundamental fact that an expanding trade brings greater prosperity and a higher standard of living than a level of business that forsakes high-production and low cost per unit of output.

Mr. Spot Commodity Buyer!

We'll Undertake to be of Real Help to You—Now

WHATEVER commodity you may want to buy on a spot basis, it is more than likely that we can find a seller if one exists. Here's why:

Through our 88 offices located in all parts of the country, our Commodity Department keeps a constant check on sources of supply. Further, we are constantly bringing buyer and seller together—and thus are conversant with specific instances in which staples have been made available to buyers for immediate use.

Why not let us look over your requirements? If you will tell us what you want, we can either help get it at regular brokerage rates—or tell you the market situation at no cost to you.

The same type of cooperation is, of course, offered to sellers.

Just address our Commodity Department—'phone if your need is urgent—and we'll swing into action for you immediately.

MERRILL LYNCH, PIERCE, FENNER & BEANE

Brokers in Commodities and Securities

Underwriters and Distributors of Investment Securities

70 PINE STREET NEW YORK 5, N. Y.

Offices in 87 Cities

GRITS AND FLAKES

FROM THE INDUSTRY

A new catalog of technical books has just been issued by The Chemical Publishing Co., Inc., 26 Court Street, Brooklyn 2, N. Y. This catalog includes the latest books on chemistry, technology, physics, general science, mathematics, engineering, foods, formularies, drugs and cosmetics, gardening, medicine, metals, technical dictionaries, etc. This catalog, conforming with the requests of technical and scientific workers and librarians, gives the date of publication of each book as well as price, number of pages, detailed descriptions and full table of contents. A copy of this catalog will be sent free to everyone who is interested in keeping up with the latest technical and scientific progress.

Appointment of Harry D. Myers as Director of Procurement for Harry Ferguson, Inc., has been announced by Roger M. Kyes, president of the Dearborn manufacturers of tractors and farm implements. Mr. Myers has resigned from his position as director of purchases for the Thompson Products Co. of Cleveland, with whom he has been associated for the past 15 years. As Director of Procurement for Ferguson, Mr. Myers will have charge of purchasing, production, quality control and traffic operations.

A resolution urging a "constructive attitude toward restrictions" on margarine was adopted at the annual meeting of the Farmers Grain Dealers Association of Iowa in Des Moines January 20. "Iowa has become an important producer of soybeans, and soybean oil constitutes 40 percent of the oils used in the manufacture of oleomargarine," read the resolution, which asked that the "legitimate interests of soybean producers and producers of other fats and oils and of consumers" be recognized.

Union Special Machine Company, 400 N. Franklin Street, Chicago 10, Ill., has just issued a new twelve-page bulletin describing their complete line of filled bag-closing machines for producing sewed closures on all sizes of paper and fabric bags. Designated as Bulletin No. 200, it describes sewing heads, stitch types, various types of closures produced, and column type, suspended head, and miscellaneous mountings for the sewing heads. Copies may be secured on request to the manufacturer.

"Nippy Nut Butter" is a bread spread recently introduced by Kavanaugh Foods, Ltd., Toronto. The product is made from debittered and deflavored soybeans, and is about the same consistency and color as peanut butter, though it has a flavor all its own. The product possesses high protein and mineral value. The company's covered wagon symbol is prominently displayed.

A 780,000-bushel elevator is being built at Columbus, Ohio, by the Ohio Farm Bureau Cooperative Assn. at a cost of $300,000. According to an announcement made by Murray D. Lincoln, general manager of the cooperative, the new structure will be equipped to handle soybeans and all types of grain. It is due for completion by harvest time in 1945.

Ogden variety returned the highest yield in the 1944 soybean variety test of Burdette Plantation, Burdette, Ark. The test plot yield of Ogden was 53 bushels per acre. Various Arksoy strains averaged from 34 to 44 bushels per acre. Ralsoy averaged 34 bushels. Ogden showed 24 percent shattering November 3.

The *Detroit News* puns in headlines:

USES HIS BEAN TO MAKE BUTTER
Spread It Soya Can Forget About Points

which doubtless refers to the soya butter of Butler Food Products.

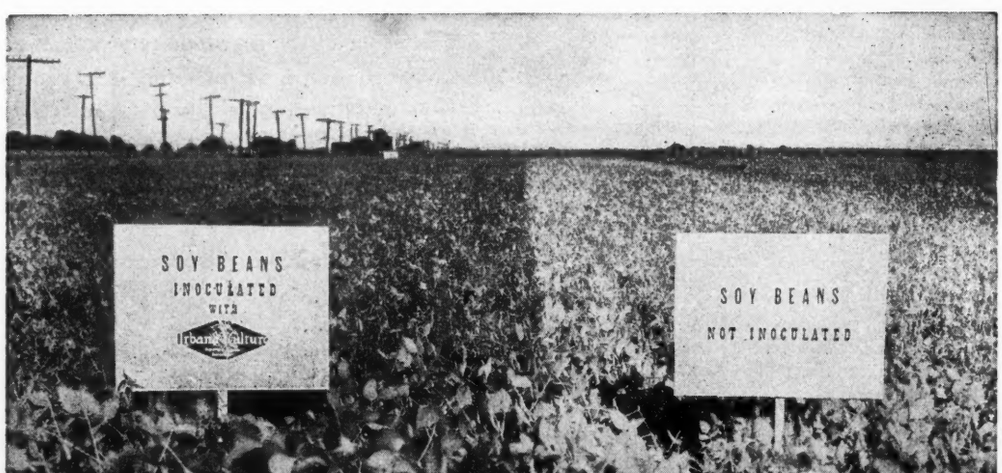
INOCULATION

Urbana Culture
Superior Legume Inoculator

for your

Soy Beans

Urbana Culture
Superior Legume Inoculator



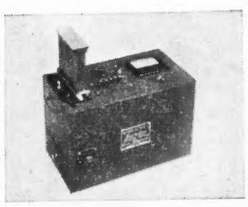
Inoculate with Urbana Culture and Efficiently Utilize the Free Nitrogen of the Air

Prepared only by THE URBANA LABORATORIES Urbana, Illinois

Order From This "DEPARTMENT STORE" for Grain and Seed House Equipment

Select from over 350 different items . . . all made of finest materials . . . rigidly inspected . . . meeting Government standards where such have been established. All items guaranteed. prompt service.

Write for FREE Catalog No. 144.

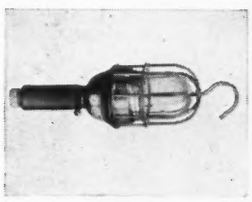


STEINLITE MOISTURE TESTER

The Steinlite one minute moisture tester is EASY TO USE . . . like tuning a radio. The Steinlite operates on the radio frequency impedance principle, and is checked against official oven methods. The Steinlite is a production control instrument and not a laboratory instrument alone. Ask our engineers to help solve your moisture testing problems.

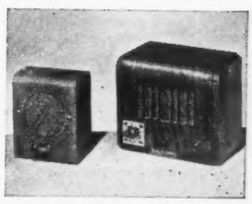
TEMPERATURE TAKING SET

This Seedburo Grain Temperature-Taking Set, developed for use with the Steinlite, is composed of a special amber thermometer and square tin container. The thermometer embodies a thick black spirit column. Degree figures and graduations in black can be read at a distance of five or six feet. Container just right size for holding a 100 gram sample. Set $2.95



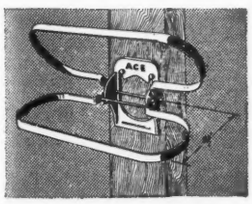
PORTABLE LAMP GUARD

Listed as standard by Underwriter's Laboratories. Every necessary precaution has been taken in the manufacture of the Guard to make it safe for use in the presence of grain dust or inflammable materials. Has 10 outstanding features that make it worth every dollar it costs to you. No. 308.....$10. The price shown does not include any cable. Cable, per ft., $ .10.



CALL-A-PHONE INTER-COMM SYSTEM

This inter-office communication system will ease your work load and speed up production. It is easy to install and economical to operate. You can contact one or up to five persons while they remain at their work. Personnel can contact you. Master stations $34.00. Sub-stations, each $12.50. Special control permits adjustment of volume.

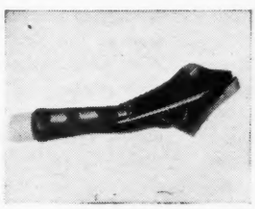


SEEDBURO BAG HOLDER

Speed up your work of filling bags. One man can operate. Opening at top is 15 inches long by 6½ inches wide. Big enough to shovel into without spilling over the side, because the bag is held firm and smooth. Everything goes inside. Weighs only 4½ lbs. When not in use can be folded up and hung out of the way. Can be set up wherever you can drive two ten penny nails.

STATIC BRUSH ELIMINATOR

The brush is made of thousands of fine brass wire bristles, interwoven between two heavy copper wires. These fine bristles quickly gather in the static, breaking it down into such small units that at no time is a flasher spark visible. The static is then instantly conveyed through the copper wire to a convenient ground. RISK IS REMOVED. Price per running inch.....$ .25



BADGER CAR MOVER

No. 221 Power King. Designed for heavy duty car spotting wherever two or more heavily loaded cars must be moved at one time. All pivotal connections are oversize to minimize wear. Castings are of alloy steel, handle of hardwood. Special rolled steel spurs grip the soft corners of the rail to prevent slipping. Weight 20 lbs. Length 70" $7.43

GRAIN GRADING HANDBOOK

The Seedburo Handbook includes the indispensable summary of the official United States Department of Agriculture instructions on grading grain — found very useful as a reference book for those concerned with grading grain. Write for your FREE copy of the Seedburo Handbook and Catalog . . . ask for Seedburo Catalog No. 144.

629 BROOKS BUILDING **CHICAGO 6, ILLINOIS**

SEEDBURO EQUIPMENT COMPANY

WASHINGTON Digest

Postwar Prices

The Pacific Northwest dry pea producing area is a long way from the center of the soybean industry, but a program being developed for application to the dry pea crop this year may have significant post-war implications for soybean growers.

War Food Administration officials are working out a new price support system for dry peas which, if successful, may provide the first test of the Government's authority to "condition" price supports under the Steagall amendment.

It also might provide the rough draft of a pattern for postwar crop goals during the period of adjusting war-expanded crops back to "normal."

The proposal is simply this: Price supports on the 1945 dry pea crop would be limited to the production from established acreage goals. Any "surplus" production over goal acreage would have to find its own market. (In the case of dry peas, most of the "surplus" would be sold as feed, and a price floor might be placed under that part of the crop sold for this purpose.)

Within the limit of funds, the Steagall amendment pledges farmers 90 percent of parity prices for two years after the war on basic crops and those for which war increases have been formally asked by proclamation. Soybeans are one of the war "proclamation" crops.

The administration and congress are somewhat in the position of a storekeeper who has contracted for unlimited supplies of groceries at a fixed price for an indefinite period. If his customers fall off before his contract expires, the merchant either has to shut off some of the incoming groceries, find new customers, or pay through the nose.

In the face of this situation, production officials have given much thought to methods of easing back into more or less "normal" production of crops greatly expanded during the war without piling up surpluses or creating an excessive drain on the treasury.

Nearest thing to a legal interpretation on the point of limiting price supports to the production from crop goals is contained in a statement of USDA Solicitor Robert Shields, which says:

"The Steagall amendment provides for continuing price support for a two-year period after the war, when the need for increased production will probably have decreased considerably.

"Since the purpose of the two-year provision was made to enable farmers to readjust their production to normal by the close of the two-year period, it is reasonable to conclude that production adjustment conditions related to changes in production needs may be imposed."

This is the essence of the plan now considered for dry peas. Its purpose is to head off an indicated surplus acreage of a crop no longer needed in such quantities as produced in the last two years.

The dry pea plan is a form of two-price system, which has received a good deal of attention in recent months both in the Administration and in Congress. The same type of plan, or a variation of it, could be applied to other war-expanded crops, such as soybeans, when an end of hostilities ends the necessity for increased acreage.

Tight Fat Situation

"Tight, but not desperate, throughout 1945." This is the way fats and oils economists in the U. S. Department of Agriculture sum up the current situation and outlook.

They do not regard the situation "tight" enough to warrant an increase in soybean acreage this year. All signs indicate that War Food Administration, with its 1945 goals already set, would be unwilling to change them radically, short of developments which cannot be foreseen at this time.

By PORTER M. HEDGE

Washington Correspondent for The Soybean Digest

The general tightening up of fats and oils this year is explained by the War Food experts this way:

Total war and civilian demand has continued high at a time when total production has fallen off — an estimated 9.8 billion pounds in 1945 against 10.9 billion pounds produced during the last season.

Last year the high output of lard from the largest crop of hogs in history eased the pressure on shortening. This year lard output was down about 25 percent from a year ago before the lard set-aside was put on.

The current lard set-aside takes about 60 percent of the lard produced in Federally inspected plants. This creates an increased demand for edible oils, since shortening and lard are interchangeable.

The fats and oils economists see little prospect of getting more oil into shortening this year, since stocks aren't high enough to permit an excessive drain.

As for imports, there appears to be some possibility of bringing in some coconut oil and copra from the Philippines this year, though the experts are frank to say that this is highly speculative — depends on the shipping space available and the speed with which the coconut growing areas are freed of Japs. Greatest concentration of coconut groves in the Philippines is on southern Luzon island, still occupied by the enemy.

Margarine Legislation

Two new bills, both aimed at repealing restrictive federal tax legislation on the manufacture and sale of margarine, have been introduced in the 79th congress.

One is by Senator Maybank of South

Used COTTON & BURLAP Bags
WATERPROOF TARPAULINS IN ALL SIZES FOR TRUCK COVERS
IN THE BAG BUSINESS FOR MORE THAN 32 YEARS
MAX KATZ
K
BAG CO.
INDIANAPOLIS, IND.

Carolina; the other by Congressman Rivers of the same state.

The Maybank bill is a duplicate of the measure introduced last year by the late Senator "Cotton Ed" Smith of South Carolina and pigeonholed by the senate agriculture committee. This bill, most likely of the two to get congressional consideration, provides for:

1. Labeling margarine as margarine instead of oleomargarine.

2. Manufacture with or without coloring.

3. Elimination of the restrictive taxes on manufacturers, wholesalers and retailers.

4. Elimination of the 10-cent-a-pound federal tax on sale of margarine.

Price Ceiling

Here are the processors' ceiling prices, effective since Jan. 27, on 1944 crop soybeans to be processed for oil:

Top legal price to producers of the base grade (U. S. No. 2, 14 percent moisture, yellow and green) is fixed by OPA at $2.10 a bushel. The ceiling takes into account CCC support price of $2.04 a bushel, plus 6 cents for storage and carrying charges.

Ceiling for U. S. No. 2, class 3 brown, 4 black, and 5 mixed, is set at $1.90 a bushel. Prices for other grades are on a basis identical with that of prices fixed in CCC contracts with crushers.

The OPA section permits country elevators a 5-cent a bushel markup for handling, and merchandisers a 2½ cent a bushel markup if they unload at terminal storage facilities, but 1 cent in all other cases.

Fulfillment of contracts for 1944 crop soybeans entered into before Jan. 27 is permitted. The ceilings apply only to 1944 crop soybeans to be crushed for oil.

Ceiling on 1943 crop beans remains as it was fixed a year ago this month. Price of the base grade on this crop was set at $1.86 a bushel.

Soybeans sold for 1945 seed, human consumption or export are not covered in the OPA action.

—s b d—

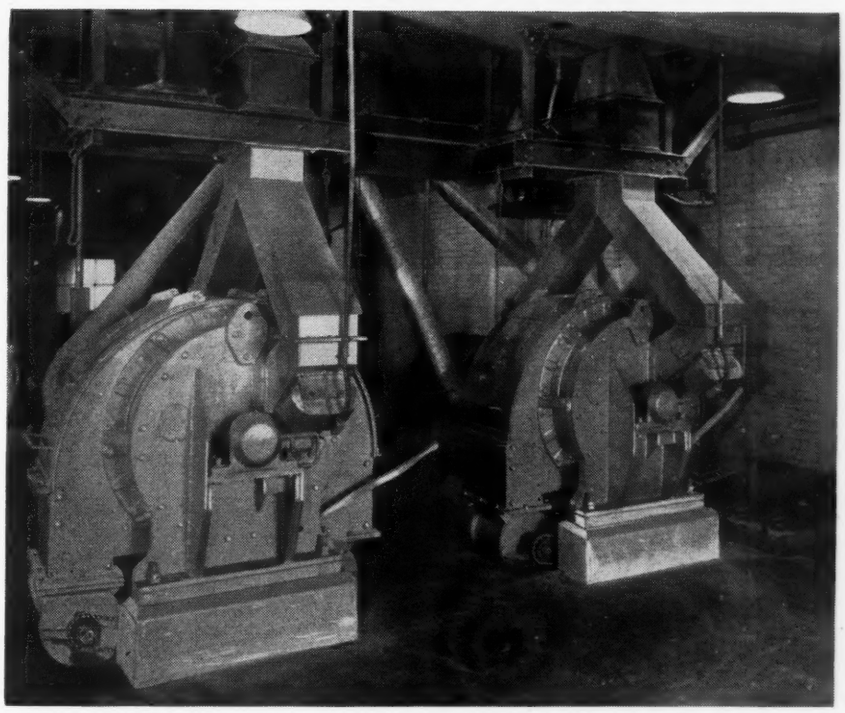
CAN YOU BEAT IT?

Lake Co., Ind., tried to find its champion soybean raiser — champion for raising a soybean stalk with more than the usual number of pods. Neil Bahr had a stalk with 196, Will Herlitz sent in a stalk with 360 pods, and then Mrs. Lee Childress topped them all with one sent by her husband which had 425 pods. There's the record to date — 425 pods on one stalk.

The above is reported by *Prairie Farmer*. But M. J. Rinker of Grand Junction, Iowa, reported a soybean plant, probably Richland, with 482 pods — the number was checked at the local newspaper office. Mr. Rinker found the plant in his cornfield where he had planted corn and beans together. As this particular plant was the only one in the hill, it had plenty of room to branch out. "In this field one could find any amount of plants having 175 pods and up on each plant," he says.

Do any of our readers know of soybean plants with more pods?

PRATER PROCESSING EQUIPMENT



UNIFORMITY AND FINE GRANULATION IN REDUCTION

UNIFORMITY OF THE GRIND and fine granulation are the end results of Prater Triple Reduction Grinders.

Multiple stage grinding reduces the material evenly and completely.

The end product is a fine, granular flour-free product.

Uniformity of the grind for both solvent and expeller processes goes back to the same mechanical thoroughness in processing.

Send your next inquiry for Grinding Equipment to:
Industrial Division

PRATER PULVERIZER COMPANY

1825 South 55th Avenue **Chicago 50, Illinois**

Eastern Representatives: Brown & Sites Company **50 Church Street, New York 7, N. Y.**

--- MARKET STREET ---

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5c per word per issue. Minimum insertion $1.00.

WE OFFER — Earlyana soybean seed. Certified and a special lot for foundation. Osborn Seed Service, Culver, Indiana.

SALE OR RENTAL — 320 A. dairy farm. May be divided as two sets bldgs. All tillable. Excellent producer. Ideal lay of land. On Wis. 65, forty miles Twin Cities. Owner, 3925 S. Upton, Minneapolis 10, Minn.

Save Up To $10 Per Acre

with

KALO INOCULATION

Uninoculated Soybeans Take Nitrogen From The Land

Uninoculated soybeans may grow on good land by feeding on the land just as does corn. It may cost as much as $10 per acre to replace the nitrogen consumed by one crop of uninoculated soybeans. Take this nitrogen from the air — save up to $10 per acre with **KALO INOCULATION.**

Pays To Inoculate Each Year

Neither prior crops or the presence of nodules, can guarantee proper inoculation and there is no assurance that effective strains of bacteria will survive from year to year. A **sure** way is to inoculate each crop with Kalo Inoculation — this is good insurance.

Kalo Inoculation is Highest Quality . . . Costs Less

Kalo inoculants contain superior strains of bacteria . . . carefully selected for their ability to fix nitrogen. Over 500 competitive tests have proven Kalo inoculants to be of top ranking quality. Yet, our price is low — FROZEN there by OPA! You can save and **profit** with Kalo Inoculation.

UNI-CULTURE
3 Cultures in 1 Can
for all clovers, alfalfa
and soybeans

KALO INOCULANT CO.
QUINCY ILLINOIS

SOY-GRASS COOKIES—Wheatless, sugarless, alkaline. The food sensation of the age and LAST WORD IN NUTRITION. 3 packages postpaid for $1.00. ViVi-Ta Healthful Foods, 480 E. Main, Rochester, N. Y.

FOR SALE — Used Steel Storage Tanks, 8,000, 10,000, 12,000, 18,000 gal. And other sizes. Stanhope, Wayne, Penna.

EDIBLE SOYBEANS — Bansei variety, high germination. Quantities up to a car load. Samples to seed firms only. W. C. Martin, Orrville, Ohio.

Seed Directory

A charge of $2.00 will be made to subscribers for listing in the March and April issues. Quantity for sale and variety are included.

ILLINOIS

Antioch — Albert Herman, 300 bu. Bansei, 50 bu. Mendota, small quantity Giant Green.

Minooka — Dana Cryder, Rt. 2, 400 bu. certified Earlyana, 100 bu. uncertified (edible) Bansei.

San Jose — Kelly Seed Co., 16,000 bu. Illini, 1,200 bu. Dunfield, 6,800 bu. Richland, 1,500 bu. Manchu, 2,800 bu. Chief, 800 bu. Patoka, all uncertified.

INDIANA

Anderson — Roy Scott, Rt. 2, certified Lincoln, sold out.

Clayton — Paul Jackson, Box 25, 700 bu. certified Dunfield.

Evansville — Henry L. Hahn, Rt. 2, 1,500 bu. certified Gibson.

Princeton — Princeton Farms, 4,000 bu. certified Gibson, 2,000 bu. certified Patoka, 1,000 bu. uncertified Macoupin.

Remington — Edward Lehman, certified Lincoln.

Valparaiso — L. K. Wyckoff, Rt. 3, certified Earlyana, certified Richland, Lincoln sold out.

Worthington — H. H. Sloan & Sons, Rt. 1, 2,000 bu. certified Chief.

IOWA

Castana — Fred W. Hawthorn, 1,500 bu. certified blue tag Richland.

Estherville — A. B. Rosenberger, 300 bu. certified Richland, 100 bu. Earlyana from certified seed, 100 bu. Canadian Mandarin from certified seed, 50 bu. uncertified Habaro.

Hudson — Strayer Seed Farms, 1,000 bu. uncertified Richland, 1,000 bu. uncertified Bansei edible, 200 bu. uncertified Sac edible, 30 bu. uncertified Mendota edible.

Laurel — Bert L. Benskin, Box 5, 2,000 bu. certified Lincoln, 4,000 bu. certified Earlyana.

Marshalltown — Kenneth R. Lynk, Rt. 1, 2,400 bu. certified Richland.

New Hartford — Howard B. Good, 500 bu. uncertified Earlyana, 3,000 bu. certified Richland.

MINNESOTA

Montevideo — John W. Evans, 50 bu. 92% germination certified Kabott, 200 bu. 93% uncertified Habaro, 200 bu. 96% uncertified Pridesoy, 50 bu. uncertified Richland, 20 bu. 88% uncertified edible Bansei.

MISSOURI

Bethany — Ben Crouch, 30 bu. uncertified Hokkaido, 10 bu. uncertified Aoda, 20 bu. uncertified Kanro.

Villa Ridge — George Saum, 500 bu. certified Boone.

OHIO

Covington — Raymond Ebberts, Rt. 2, 1,000 bu. certified Richland.

Irwin — Farm Management, Inc., 250 bu. certified Bansei, 2,000 bu. uncertified Bansei.

Marysville — O. M. Scott & Sons Co., 300 bu. uncertified edible Bansei.

Maumee — W. N. Woods, Monclova Rd., 300 bu. registered Richland, 350 bu. uncertified edible Bansei.

Orrville — Harry A. Landis, Rt. 2, 300 bu. edible Bansei. No ships less than 300 lbs.

West Alexandria — A. B. Flory, 75 bu. registered Lincoln, 200 bu. uncertified Richland.

WISCONSIN

Prairie du Sac — Kindschi Bros., 400 bu. certified Manchu 606.

PATENTS AND TRADE-MARKS

Patent and protect your inventions. Prompt, expert personal service. Write for full information. Lester L. Sargent, Registered Patent Attorney, P. O. Box 3156, 1115 K Street N. W., Washington, D. C.

VEGETABLE SOYBEAN SEED

Choice Seed Stocks

SAC BANSEI AODA

Germination 90% plus
Purity 99.9%

Wholesale Only No Samples

SOYBEAN JOHNSON
Apt. E 1337 McCutcheon Ave.
RICHMOND HEIGHTS 17, MO.

In The MARKETS

• SOYBEAN STOCKS. Stocks of soybeans on farms January 1, 1945 are estimated at 42,593,000 bushels, equal to about 22 percent of the 1944 production. This is a reduction of nearly 15 million bushels from the January 1, 1944, farm stocks of 57,333,000 bushels which represented 30 percent of the 1943 production. On January 1, 1943, the first period for which comparable data are available for all states, farm stocks amounted to 88,215,000 bushels or 47 percent of the 1942 production. However, on that date stocks included considerable 1942 production still unharvested by January 1, 1943 because harvesting had been delayed by unfavorable fall weather.

Fall weather was unusually favorable for both maturing and harvesting the 1944 crop and harvesting was nearly completed by November 1. The movement to market was exceptionally rapid, with most producers selling their beans as quickly as transportation and storage facilities became available. Since government controlled prices were in effect, there was little incentive for farmers in commercial areas to hold their beans for higher prices. In non-commercial areas a considerable proportion of the crop is held on farms to seed the coming year's acreage. In localities where seed was both scarce and high priced in 1944, farmers are holding a higher percentage of the crop than they did last year.

Farm disappearance between October 1, 1944, and January 1, 1945 totaled 155,035,000 bushels compared with 140,353,000 bushels from October 1, 1943 to January 1, 1944, even though the 1944 production was practically the same as in 1943. A year earlier, the first period for which information is available for all states, the disappearance between October 1, 1942 and January 1, 1943 was only about 102,000,000 bushels.

Stocks on Farms on Jan. 1

State	1943	1944	1945
		Thousand bushels	
New York	282	270	163
New Jersey	230	252	113
Pennsylvania	345	372	246
Ohio	11,711	9,064	6,288
Indiana	12,135	7,527	6,482
Illinois	26,560	16,905	11,424
Michigan	1,522	1,357	686
Wisconsin	538	717	485
Minnesota	2,378	1,561	1,042
Iowa	19,853	11,554	8,942
Missouri	3,179	2,000	2,015
North Dakota	40	43	24
South Dakota	195	101	49
Nebraska	420	160	73
Kansas	1,145	695	530
Delaware	495	263	223
Maryland	543	237	214
Virginia	927	486	416
West Virginia	22	18	9
North Carolina	2,021	1,550	926
South Carolina	52	70	54
Georgia	68	42	42
Kentucky	330	292	312
Tennessee	378	342	386
Alabama	169	172	206
Mississippi	1,222	579	437
Arkansas	814	406	614
Louisiana	516	227	157
Oklahoma	62	35	34
Texas	72	36	1
United States	88,215	57,333	42,593

• NOVEMBER FATS AND OILS OUTPUT. Factory production of fats and oils in November 1944 was 824 million pounds, compared with 762 million pounds in October and 923 million pounds in November 1943, reports the Bureau of Agricultural Economics. The increase over October was largely a result of seasonal rises in output of lard and edible vegetable oils. The decline from November 1943 reflected large reductions in output of lard and linseed oil.

Soybean oil output in November 1944 was 101 million pounds compared with 88 million pounds in November 1943 and 75 million pounds in November 1942. Expanded soybean processing capacity in Midwestern states this season probably will result in a larger crush of soybeans in the early part of the season than in previous years. In October and November, the quantity of soybeans processed in the United States totaled 20.8 million bushels compared with 18.5 million bushels a year earlier and 15.0 million bushels 2 years earlier.

The yield of oil from soybeans processed in October and November this season was 8.7 pounds per bushel, the same as a

H. W. DEVORE & CO.

Toledo 4, Ohio - Since 1876

GRAIN SOYBEANS

PROCESSOR REPRESENTATIVES

members

TOLEDO-CHICAGO EXCHANGES

Phones: L.D. 56 ADAMS 9615

Toledo Consignments - Chicago Futures

WOODSON-TENENT LABORATORIES

MEMPHIS, TENNESSEE and CAIRO, ILLINOIS

Analysis of Soybeans and Products

Official Chemists for National Soybean Processors Association

"ILLINI"

BRAND

EXPELLER SOYBEAN OIL MEAL

41% Protein

4.5% Fat

either Sacked or Bulk

A Quality Product backed up by courteous service and fair dealing.

WE BUY SOYBEANS

in Car Lots or Truck Lots

DECATUR SOY PRODUCTS CO.

DECATUR ILLINOIS

GUILLORY SALES CO.
BROKERS

OIL and MEAL
SOYBEAN and COTTONSEED

Cotton Exchange Bldg. **Memphis 3, Tenn.**
Phones L. D. 451 - 452

REPAIR BAGS *Quickly, Easily*
With
TEHR-GREEZE
FABRIC CEMENT

It really sticks! Ideally suited for patching, mending or repairing clothing, tents, awnings, grain bags, sacks, burlap bags, flour mill silks, canvas, leather goods and many other materials. A thousand uses in home, farm and shop.

EASY TO USE — Just spread a thin coating with a paddle or knife, press pieces firmly together and allow to dry. Will not peel or tear off.

WATERPROOF — Can be washed without loosening the patches. Available in conveniently sized containers. Write for trade prices.

VAL-A COMPANY 700 W. ROOT STREET CHICAGO 9, ILLINOIS

RAT RUIN

Non-poisonous to humans or pets

Why allow rats to destroy poultry and foodstuffs? RAT-RUIN, a red squill product made according to U. S. Department of Agriculture formulas, will eliminate 90% of that loss.

TRIAL BOX... $1.00
Enough to Kill 200 Rats **Postpaid**

Also packed in bushel, half bushel, and one-fourth bushel baskets for quantity users. Write for prices.

Address Orders and Inquiries to

Dept. FH —The Soybean Digest
Hudson, Iowa

NO MUSS--- READY TO USE

year earlier but 0.6 pounds per bushel less than 2 years earlier. This points to a probable yield of oil per bushel of soybeans crushed, somewhat lower than the average of 9 pounds for most recent years before 1943. Output of soybean oil in the 1944-45 season may total about 1,250 million pounds.

• NOVEMBER FOOD PURCHASES. WFA's report of agricultural commodities purchased during September for lend-lease, territorial emergency, Red Cross and other purposes.

Commodity (lbs.)	December	Jan. 1, thru Dec. 31, 1944
Fats and Oils:		
Margarine	5,570,005	73,601,347
Shortening	2,417,259	14,323,791
Vegetable Oils	10,556,378	346,161,678
Soy Flour & Grits	1,520,000	78,669,850
Soybeans		10,029,630
Caribbean Stockpile Program		
Soybean Oil		846,000
Margarine		100,000
Soy Flour		1,000
Soybean Meal		1,598,000

• OIL FEEDS. Oil feeds situation continues very tight and the local soybean oil meal offerings are exceptionally light as most of the crushers are sold up through May, reports War Food Administration in its feed market review for February 6 issued at Chicago. Demand from feed mixers and country dealers has been heavy and some observers accredit this demand to the fact that the set-aside order had been discontinued and buyers are turning to the processors for their winter feeding requirements instead of through their free AAA agents as heretofore.

The lack of empty cars is curtailing shipments of soybean oil meal out of the crushers' plants and rather than to shut down some of them are moving their output by trucks.

• SOYBEAN STOCKS. War Food Administration commercial grain stock report.

U. S. Soybeans in Store and Afloat at Domestic Markets (1,000 bu.)	Jan. 9	Jan. 7	Jan. 24	Jan. 30
Atlantic Coast	428	428	420	420
Gulf Coast	0	0	0	0
Northwestern and Upper Lake	718	718	718	718
Lower Lake	8,303	8,203	8,144	7,707
East Central	8,071	7,789	7,598	7,369
West Central, Southwestern & Western	6,474	6,253	6,029	5,850
Pacific Coast	0	0	0	0
Total current week	23,994	23,391	22,909	22,064
Total year ago	23,120	25,015	23,594	22,506
Total North American Commercial Soybean Stocks (1,000 bu.)				
Current week	24,085	23,477	22,995	22,146
Year ago	23,153	25,044	23,623	22,534

• SOYBEAN INSPECTIONS. Receipts of soybeans inspected in December decreased seasonally to 3,898 cars compared with 17,111 cars in November and 32,163 cars in October, according to inspectors' reports to the Grain Products Branch of the War Food Administration. The December inspection brought the total for the first three months of the season to 53,172 cars compared with 58,422 cars for the same months of 1943.

The quality of the soybeans inspected in December continued good, with 84 percent grading No. 2 or better compared with 85 percent in November and 87 percent in October.

Inspections of soybeans in December included the equivalent of 188 cars inspected as cargo lots, and truck receipts equivalent to about 41 cars.

• CANADIAN SOYBEAN PRODUCTION. The 1944 soybean production was estimated at 682,000 bushels compared with 569,000 a year earlier. The acreage goal for 1945 is 40,000 acres, a 10-percent increase over the area planted in 1943. This may be difficult to achieve, since white beans, sugar beets, and corn are also grown in the same area.

During the calendar year 1943, imports of soybeans amounted to 93,600 bushels, while 280,000 bushels were imported in the first 10 months of 1944. In addition, Canada imported 14.5 million pounds of soybean oil in 1943 and 3.9 million pounds during January-October 1944.

• STANDARD SHORTENING SHIPMENTS. By members of Institute of Shortening Mfgrs., Inc.

Week ending Dec. 30, lbs.	5,801,966
Week ending Jan. 6	6,125,262
Week ending Jan. 13	9,569,246
Week ending Jan. 20	10,001,978
Week ending Jan. 27	9,334,735